Code of Practice:

Processing of Bee Products

Part 1: Overview

Prelims

Amendment 0

July 2005

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Disclaimer

IMPORTANT DISCLAIMER

Every effort has been made to ensure the information in this report is accurate.

NZFSA does not accept any responsibility or liability whatsoever for any error of fact, omission, interpretation or opinion that may be present, however it may have occurred.

Website

A copy of this document can be found at: http://www.nzfsa.govt.nz/animalproducts/index.htm

Review of Code of Practice

This code of practice will be reviewed, as necessary, by the New Zealand Food Safety Authority. Suggestions for alterations, deletions or additions to this code of practice, should be sent, together with reasons for the change, any relevant data and contact details for the person making the suggestion, to:

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1 Purpose and Scope of the Code of Practice

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This code of practice (COP) has been developed by the New Zealand Food Safety Authority (NZFSA), in consultation with industry, to assist bee product operators meet the requirements of the Animal Products Act 1999 and produce edible bee products that are safe and suitable for their purpose. In particular, it provides guidance for meeting the requirements for the development, registration and implementation of risk management programmes (RMP).

This COP 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.

This COP is divided into five parts.

Part 1: Overview

Part 1 gives an overview of the whole code of practice and the requirements of the Animal Products Act 1999. It explains the options available to operators for the development of RMPs. It also provides links to other relevant documents published by the NZFSA.

Part 2: Good Manufacturing Practice (GMP)

Part 2 covers good manufacturing practice and process control. It sets out the regulatory requirements, and acceptable or agreed procedures for meeting the requirements of the Act, particularly the Specifications for Products Intended for Human Consumption. This will assist operators in the development and documentation of supporting systems that form part of RMPs.

Part 3: HACCP Application

Part 3 shows how the principles of Hazard Analysis and Critical Control Point (HACCP) are applied for a generic process for the extraction, processing, packing and storage of honey; and the processing of dried pollen.

Part 4: Identification and Control of Risk Factors Related to Wholesomeness and Labelling

Part 4 shows the identification of risk factors and controls related to the wholesomeness and labelling of honey and dried pollen.

Part 5: RMP Templates

Part 5 provides simple RMP templates that can be used by operators in developing their own RMP. The templates are accompanied by a guide that explains the use and application of the templates.

Exclusions

This code of practice does not apply to primary processing of bee products. Primary processing does not require an RMP.

Primary processing of bee products includes the following activities:

- Beehive management including the rearing of queen bees for royal jelly production
- Collection of honey supers, temporary storage of supers prior to delivery to the extraction facility, and transport to the extraction facility
- Scraping or collection of raw propolis from boxes or mats, bagging and storage of raw propolis, and transport to an extraction facility
- Collection of pollen, bagging, holding in a freezer by the beekeeper, and transport to a pollen drying/processing facility

This code of practice has been developed based on New Zealand requirements only and does not cover overseas market access requirements. Exporters must ensure that they meet the overseas market access requirements relevant to their product and intended market.

2 Requirements of the Animal Products Act 1999

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The Animal Products Act 1999 is New Zealand's legal framework for the processing of animal products. It establishes a risk management system that requires all animal products traded and used to be "fit for intended purpose". The Act sets out the duties of the operator and the requirements related to risk management programmes (RMPs), regulated control schemes, and exporter controls.

2.1 Risk management programmes (Part 2 of the Act)

All secondary processors of bee products for human consumption that need an official assurance to export their products are required to have a documented RMP. Secondary processing includes, but is not limited to, the following operations:

- processing of honey – from receipt of honey supers, to extraction, processing, packing, and storage;
- storage of bulk honey;
- processing of dried pollen – from receipt of pollen, to drying , freezing, packing and storage;
- further processing, packing and storage of honey products (e.g. honey and fruit, honey and velvet) and other edible bee products; extraction of propolis;
- processing of wax for human consumption (e.g. wax used for comb honey foundation, cosmetics, pharmaceutical materials).

Secondary processing starts from the point when raw material (e.g. honey supers, pollen, raw propolis) is received at the premises or facility where it will be processed (e.g. extracted, dried, heated), packed or stored.

All existing bee product processors that require an RMP must operate under a registered programme from 1 July 2006. Application for registration should be made at least three months before this date (i.e. by 1 April 2006 to ensure registration is in place by 1 July 2006).

2.2 Regulated control schemes (Part 3 of the Act)

A regulated control scheme is a scheme developed by the NZFSA and imposed by the

Director-General to manage risks, where:

- RMPs would not be feasible or practicable;
- it is more efficient for the government to run the programme; or
- it is needed to meet the market access requirements of foreign governments.

At present, there are no regulated control schemes for bee product processing.

2.3 Exporter controls (Part 5 of the Act)

Exporters of bee products are required to register with the NZFSA. Exporters are responsible for exporting in accordance with the Act and, where appropriate, may be required to meet specified market access requirements of foreign governments which may be additional to the New Zealand standard.

Export requirements are excluded from this COP, as they are additional to RMP requirements. Operators need to be aware of these requirements and ensure that their documented systems include procedures and records necessary to demonstrate compliance with all relevant requirements notified in:

- General Requirements for Export (GREX); and
- Overseas Market Access Requirements (OMAR).

The Guide for Exporters and the Bee Products Official Assurances Guide discuss exporter requirements in more detail.

2.4 Imposition of authorisations, duties and responsibilities (Part 8 of the Animal Products Act)

The Act provides for the recognition by the NZFSA of agencies and persons to undertake certain functions and activities (e.g. evaluation and external verification) that are important to the management of RMPs. The NZFSA maintains a public register of all recognised agencies and accredited persons, which is available on the NZFSA website.

The Act imposes duties on these key persons:

- operators of RMPs (section 16 of the Act);
- exporters (section 51 of the Act);
- recognised agencies (section 106 of the Act); and
- accredited persons (section 107 of the Act).

The Act also provides for appropriate penalties to be applied when an offence occurs.

3 Risk Management Programme

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3.1 What is a risk management programme?

A risk management programme (RMP) is a documented programme designed to identify and manage hazards and other risk factors in relation to the production and processing of animal material and animal products, in order to ensure that the resulting animal product is fit for intended purpose. The risk factors that need to be considered in the development of an RMP are:

- risks from hazards to human and animal health;
- risks from false or misleading labelling; and
- risks to the wholesomeness of animal material or product.

An operator's registered RMP will be "legally binding" so it must be developed and implemented in accordance with relevant New Zealand legislation. Overseas market access requirements and commercial quality issues are not required to be part of the risk management programme.

The Risk Management Programme Manual provides comprehensive information on the principles and components of an RMP and provides guidance for their development.

3.2 RMP configurations

An RMP may be developed for a single business or for multiple businesses.

3.2.1 Single-business RMP (Sections 12(3) and 12(4) of the Act)

A single RMP that covers the operations of a single-business located in a single-site is the simplest form of an RMP and its use is encouraged, whenever applicable. This is likely to be the most suitable RMP configuration for majority of honey extractors and packers.

A business may also decide to have more than one RMP. This may be useful when the operation can be logically and clearly split by product, process or premises. For example, a single business involved in the extraction and packing of honey may wish to have two RMPs – one covering the extraction process and the other the packing process. This arrangement can give flexibility to the operator in terms of making RMP amendments. It also allows for the suspension or deregistration of one RMP without affecting the other. However, consideration should be given to the practicality and cost of managing more than one RMP within a single business, and any market access requirements.

3.2.2 Multi-business RMP (Section 17A of the Act)

An RMP may apply to more than one business, if the Director-General approves such an arrangement for the particular business. The approval will depend on the operator being able to demonstrate that:

- the programme is appropriate to all businesses or part-businesses that it covers;
- the registered operator of the programme will have sufficient control, authority and accountability for all matters covered by the programme in relation to the other business or part-business subject to its coverage; and
- the applicant has obtained the consent or otherwise taken into account the views of any person whose business or part-business is to be covered by the programme.

An example where a multi-business RMP could apply is in a situation where the honey packer decides to include the operations of several extractors under a single RMP. In this case, the packer must have sufficient control, authority and accountability for the related activities of the extractors. The extractors must consent to this arrangement and should only supply bulk honey to the particular packer covered by the RMP.

Certain market access requirements, for example European Union (EU) listing requirements, do not allow this RMP configuration to be used. Therefore, this is not likely to be a suitable RMP configuration for majority of honey processors.

3.3 Contents of a risk management programme

3.3.1 Contents

The documented RMP must include the following:

- **Good manufacturing practice**

Good manufacturing practice (GMP) includes the practices and procedures designed to ensure the consistent production of products that are safe and suitable for their intended purpose, and that meet relevant regulatory requirements. It includes several interacting components such as hygienic practices, process control and quality assurance systems. GMP is usually documented by the operator in supporting systems of their RMP.

GMP is the foundation for Hazard Analysis and Critical Control Point (HACCP) and RMPs. It may also be referred to as Good Operating Practice (as used in the NZFSA Domestic Food Review discussion papers).

GMP for the processing of honey and other edible bee products is discussed in Part 2 of this COP.

- **Application of HACCP principles**

The operator must apply HACCP principles, as appropriate to the product and process, to ensure a systematic approach to the identification and analysis of hazards and their control. This is covered in Part 3 of this COP.

- **Identification of other risk factors and their controls**

Other risk factors related to the wholesomeness of the product and risks from misleading labelling must be identified in the RMP. The control measures for addressing the identified risk factors must also be documented in the RMP. These are presented in Part 4 of this COP.

- **Other RMP requirements**

Other RMP requirements such as business identification, operator's details, physical boundaries, and provision for verifiers' rights must also be documented in the RMP. These requirements are covered in the RMP templates provided in Part 5 of this COP.

3.3.2 RMP Components

The RMP should include the following components:

- Operator, business and RMP identification
- List of RMP documents
- Management authorities and responsibilities
- Scope
- Animal material and animal product description
- Process description
- Good Manufacturing Practice
- Application of HACCP (identification, analysis and control of hazards to human or animal health)
- Identification and control of risks to wholesomeness
- Identification and control of risks from false and misleading labelling
- Identification and competency of responsible persons
- Corrective action for unforeseen circumstances
- Recall procedures
- Confirmation of validity
- Operator verification
- Notification requirements
- Provision for verification activities & verifiers rights
- Document control and requirements for records

4 Development of an RMP based on an Approved Code of Practice

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The Animal Products Amendment Act 2002 allows for an RMP to be based on a COP, a template, or a model if in the view of the Director-General it is valid and appropriate for businesses of that kind. A COP that is deemed as valid and appropriate after an assessment process carried out by the NZFSA will be formally recognised as an "approved code of practice".

A COP is a valuable tool to use in the development of the RMP. Compliance to an approved COP will:

- ensure that the operator complies with current best practice or acceptable industry practices and procedures;
- ensure that the operator meets the relevant regulatory requirements; and
- simplify and reduce the cost of developing and evaluating the RMP.

The applicability of the approved COP to the particular business and the degree of the operator's compliance to the approved COP will impact on the development approach and evaluation requirements for the RMP.

4.1 Businesses whose products and processes are fully covered by an approved COP

4.1.1 Development

When the COP fully covers the scope of the operation of a business, the simplest approach for developing an RMP is to use the appropriate RMP template provided. The RMP template is a simple form that the operator completes by filling in the required information in the appropriate boxes.

The requirement for the documentation of GMP supporting systems and the application of HACCP principles in the RMP can be met by incorporating the relevant sections of the COP into the RMP by reference. This means that that the operator will only need to write very few procedures that are specific to their operation. The operator's RMP will, therefore, consist of the completed RMP template, the relevant sections of the COP that apply to their operation, and their own written procedures.

Confirmation by the operator that the RMP meets all the legal requirements for a valid RMP and that it will conform to the approved COP will simply involve signing a declaration in the RMP template.

Two RMP templates are provided in Part 5 of this COP. One template covers the processing of honey and dried pollen. The other template has been designed for use by beekeepers who do not extract their own honey and are only involved in the storage of bulk honey .

4.1.2 Evaluation

An RMP that is fully based on an approved COP does **not** require an evaluation prior to registration since the NZFSA has already determined that the requirements and procedures set out in the COP are valid and will deliver the relevant regulatory requirements. Verification of the accuracy of the documented RMP and operator's compliance to the COP will be carried out at the initial verification by the contracted verifier.

4.2 Businesses whose products or processes are not fully covered by an approved COP, or those with significant variation from the COP

4.2.1 Development

Since the COP is limited in its scope in terms of the bee products, processes and procedures it covers, some businesses will need to tailor parts of the RMP template to meet their particular process variations. Some may also need to, or want to develop their own specific RMP.

Businesses whose products and processes are not fully covered by the COP, or who have decided to apply procedures or processing parameters that significantly differ from those given in the COP must write their own documentation for those parts of the RMP that are not covered or vary from the COP (including HACCP application and GMP procedures). The

RMP template may still be used but the operator will need to add their own information or documents for those parts not covered by the template or COP.

The operator must be able to demonstrate the effectiveness of any alternative procedures or parameters to consistently meet all relevant regulatory requirements and produce products that are safe and suitable for their purpose. Demonstration of its effectiveness may involve the collection of evidence (e.g. data from testing or trials, published scientific information, report from an expert) by the operator for assessment of the accredited evaluator or the NZFSA.

4.2.2 Evaluation

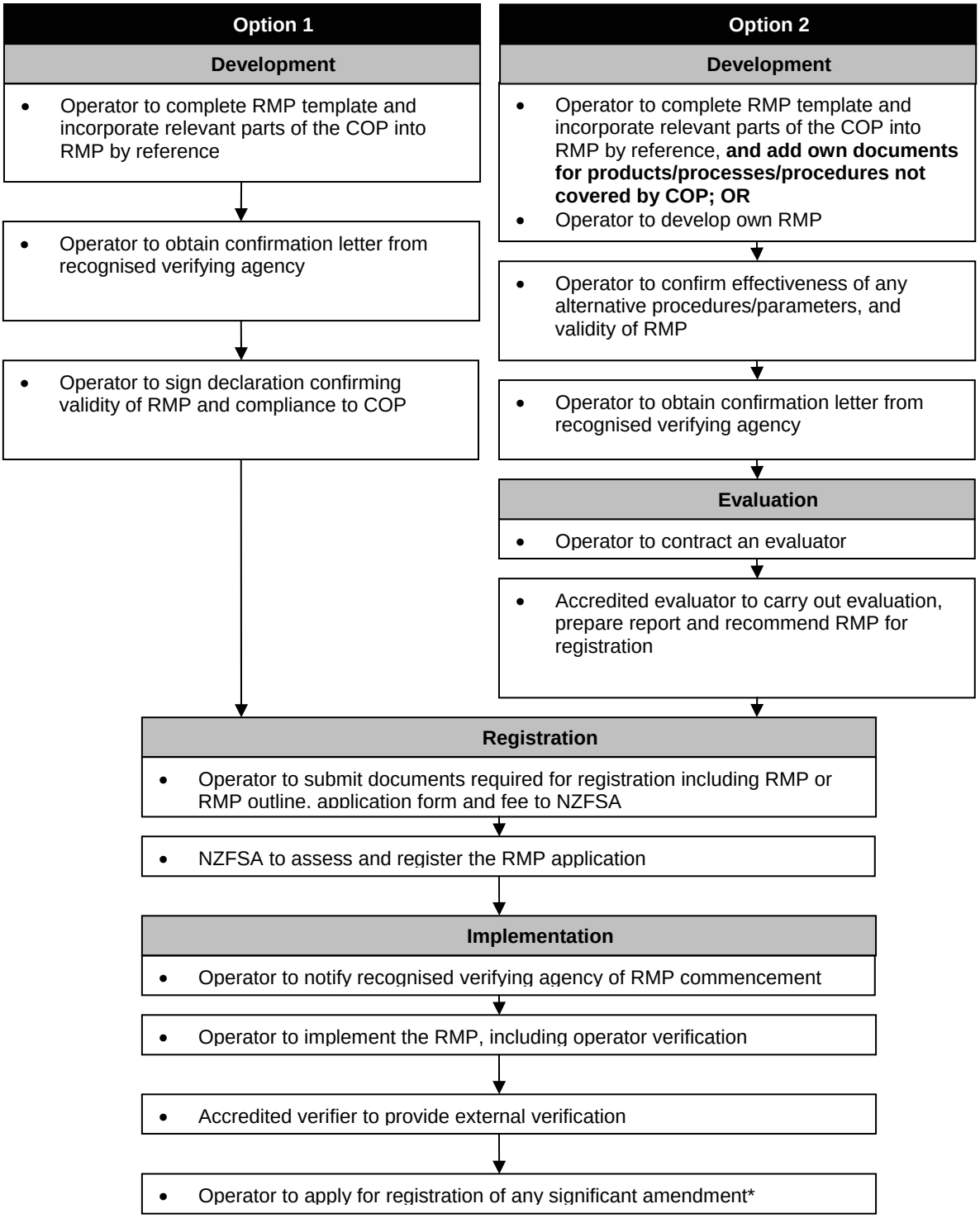
An RMP that is not fully covered by an approved COP or has procedures that vary from the COP will need to be evaluated by an independent evaluator to confirm the adequacy of the RMP. Evaluation will involve a desk-top audit of the documented RMP and may require an on-site visit of the premises before registration of the RMP.

4.3 Steps for the development, registration and implementation of an RMP

The steps for the development, registration and implementation of an RMP are summarised in Figure 1. The diagram shows the steps for two options:

- Option 1: For businesses whose products and processes are fully covered by the COP.
- Option 2: For businesses whose products and processes are not fully covered by the COP, or who have decided to apply procedures or processing parameters that significantly differ from those given in the COP.

Figure 1. Steps for the development, registration and implementation of an RMP



* Significant amendments will require evaluation prior to registration

5 Other Legislation

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This COP will assist bee product operators meet the requirements of the Animal Products Act 1999. Operators are responsible for ensuring that they are familiar and comply with all other legislation. Operators should not rely solely on this COP to provide them with information on the legal requirements under the different legislation.

Legislation that are likely to be relevant to bee product operators include, but is not limited to, the following Acts and their associated regulations and specifications:

- Animal Products Act 1999
- Animal Products (Ancillary and Transitional Provisions Act) 1999
- Agricultural Compounds and Veterinary Medicines Act 1997
- Biosecurity Act 1993
- Commerce Act 1986
- Consumer Guarantees Act 1993
- Fair Trading Act 1986
- Food Act 1981
- Hazardous Substances and New Organisms Act 1996
- Resource Management Act 1991
- Health and Safety in Employment Act 1992

6 Sources of Other Information

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Information specific to bee products is available on the Bee Products website of the NZFSA.

Other information about the Animal Products Act 1999 and RMPs can be obtained through the RMP Help Desk or the Animal Products website.

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1 Introduction

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1.1 Purpose and scope

This code of practice (COP) has been developed by the New Zealand Food Safety Authority (NZFSA), in consultation with an industry working group, to assist bee product processors meet the requirements of the Animal Products Act 1999 and produce products for human or animal consumption that are fit for their intended purpose. It applies to businesses involved in the secondary processing of bee products which covers the extraction of honey; and the processing, packing and storage of honey, and other edible bee products.

Part 2 of this COP covers Good Manufacturing Practice (GMP) essential for the consistent production of edible bee products that are fit for their intended purpose, and that meet relevant regulatory requirements. It provides guidance on hygienic practices and process control that directly or indirectly impact on the safety and suitability of products. Compliance with these GMP measures will assist operators meet the requirements of the Animal Products Act 1999, particularly the current version of the Animal Products (Specifications for Products Intended for Human Consumption) Notice.

GMP is the foundation for Hazard Analysis and Critical Control Point (HACCP) and of risk management programmes (RMPs). The HACCP approach applied in Part 3 of this COP is based on the expectation that GMP is effectively implemented prior to the application of HACCP principles.

GMP can also be referred to as Good Operating Practice or Supporting Systems.

1.2 Layout of Part 2

Part 2 is divided into several GMP programmes that cover hygiene and sanitation, process control and operating procedures, and other RMP requirements. The GMP programmes are laid out with the following subheadings:

Purpose and Scope

This describes the purpose of the GMP programme and its scope of application.

Sources of Hazards

This section identifies the sources of hazards that are controlled under the particular GMP programme, and gives examples of hazards associated with each source. It does not apply to those GMP programmes that do not directly address a particular source of hazard (e.g. inventory control, calibration).

Mandatory Requirements

These requirements are mandated by legislation, and must be met or complied with by the operator. The mandatory requirements are not directly quoted from legislation. They have been paraphrased to make them relevant to bee products and easier to understand. The specific legislation from which each requirement has been derived is cited to assist those who may wish to read the actual piece of legislation referred to. Actual legislation will always take precedence and it is the operator's responsibility to check for changes to legislation.

The abbreviations used for legislation cited in this document are:

AP Reg - Animal Product Regulations

HC Spec - the current version of the Animal Products (Specifications for Products Intended for Human Consumption) Notice

RMP Spec – the current version of the Animal Products (Risk Management Programme Specifications) Notice

Procedures

The procedures given are the accepted or industry agreed means of achieving or complying with the mandated requirements. These procedures cover control, monitoring, corrective action, and verification. The operator must comply with the procedures that are applicable to their product and process. For example, an extractor must comply with all the GMP procedures and requirements related to the extraction premises and process.

There may be cases when the operator may decide to use an alternative process, procedure or parameter that is not provided for in this COP (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. 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 *Risk Management Programme Manual.*

This COP will be reviewed, as necessary, and the inclusion of any alternative process, procedure or parameter will be considered as part of this review.

The GMP programmes covering hygiene and sanitation (e.g. pest control, design and construction), 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 2 only cover honey and dried pollen. The processing of other types of bee products (e.g. honey and fruit blends, honey and velvet, propolis extract) may not be adequately covered. The operator will, therefore, need to write their own process control procedures for these other types of products.

Guidance

Guidance material is presented in a box. It provides explanatory information and 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 GMP and the achievement of regulatory requirements. Justification is not needed when deviating from guidance.

Records

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

1.3 Documentation of GMP

1.3.1 Legal requirement

The current version of the RMP Specifications requires the operator to document sufficient procedures to ensure that GMP is applied. These procedures must cover:

- the control measures to be used to control hazards and other risk factors;
- any parameters to be met;
- any monitoring procedures that are to be carried out; and
- 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.

The GMP programmes or supporting systems needed for an RMP for a typical honey extraction, processing and packing operation are already documented in this COP. Therefore, most honey extractors or packers will not need to document their own supporting systems except for certain process procedures specific to their operation. All that is required is that the operator incorporates the relevant supporting systems into their RMP by reference (refer to the RMP templates in Part 5).

When the COP does not cover a particular procedure required for the operator's RMP, the operator will need to write their own procedures. Sufficient detail must be given to ensure that managers and staff know what to do, to assist in staff training and to ensure clear understanding by external verifiers and accredited evaluators.

1.3.2 Contents of supporting systems

When it is necessary for the operator to document supporting systems, it is recommended that they contain the following details:

- Purpose and scope
- Authorities and responsibilities
- Materials and equipment, as applicable
- Procedures (covering control measures, monitoring, corrective action and operator verification)
- Records
- References to other relevant documents, as applicable.

2 Design, Construction and Maintenance of Buildings, Facilities and Equipment

2.1 Purpose and scope

To ensure that all buildings, facilities and equipment are designed, constructed, installed and operated in a manner that prevents or minimises contamination of edible bee products, packaging, equipment, and the processing environment.

2.2 Sources of hazards

Source	Examples of hazards
Facilities, equipment	Bacterial pathogens, e.g. *Listeria monocytogenes, Salmonella* Chemical residues, e.g. heavy metals from equipment Physical hazards, e.g. metal, glass
Maintenance compounds (e.g. lubricating fluids)	Chemical residues
Environmental contaminants (e.g. dust, fumes, pollutants, sewage)	Microbiological pathogens, e.g. *Salmonella*, *E. coli* spp., *Clostridium* spp. Chemical residues, e.g. agricultural chemicals

2.3 Mandatory requirements

2.3.1 AP Reg 10

The premises, facilities, equipment and essential services must be designed, constructed, located and operated in a manner that:

- enables the suitability of any edible bee product to be maintained;
- enables the fitness for intended purpose of any edible bee product to be achieved and maintained; and

- minimises and manages the exposure of any edible bee product, packaging, equipment, and the processing environment to hazards and other risk factors.

2.3.2 HC Spec 5 (1)

Any material or exposed internal surface finish used in the building, manufacture, or maintenance of facilities, equipment, or internal structures, that may affect the suitability for processing or the fitness for intended purpose of any edible bee product, must:

- be impervious, non-absorbent, and free from depressions, pits, cracks, and crevices that may harbour contaminants;
- be easily cleaned and sanitised;
- be unaffected by any corrosive substance with which it is likely to come into contact, to the extent necessary to ensure that it will not harbour contaminants and is not a source of contamination;
- be durable, resistant to fracture, and capable of withstanding repeated exposure to normal cleaning and sanitising;
- in the case of surfaces (other than those used for walking or standing on during operations), be smooth and minimise the accumulation of condensation; and
- in the case of materials lining the walls, floors, and ceilings, be of a colour that does not disguise contaminants having regard to the lighting arrangements.

2.3.3 HC Spec 5 (2)

The facilities, equipment, and internal structures, that may affect the suitability for processing or the fitness for intended purpose of any edible bee product, must be of sanitary design.

2.3.4 HC Spec 20

Equipment and storage areas that are used to store or contain waste must:

- be clearly identified, and if equipment is permanently installed and in an identified storage area then either the equipment or storage area may be identified; and
- not be a source of contamination to any edible bee product.

2.3.5 **HC Spec 7**

Lighting must be of a sufficient intensity and quality to enable satisfactory performance of all operations.

2.3.6 **HC Spec 6 (3)**

Temperature controlled rooms and equipment must be operated within their design capability and capacity, and must consistently deliver any required temperature.

2.3.7 **HC Spec 6 (4)**

Cleaning and sanitation facilities, and equipment, must be provided to ensure that the hygiene of personnel, equipment and the premises or place can be maintained.

2.3.8 **HC Spec 6 (5)**

Access to facilities that are sufficient for official assessors and Animal Product Officers to perform their role must be provided.

2.3.9 **HC Spec 19 (1)**

Equipment or storage areas used to store or contain any bee product that is not suitable for processing or not fit for human consumption, but is suitable or fit for some other purpose, must be clearly identified and not be a source of contamination to any other bee product that is intended for human consumption.

2.3.10 **HC Spec 19 (2)**

Any bee product that is not suitable for processing or not fit for human consumption but is suitable or fit for some other purpose, must be kept under controlled conditions until adequately identified in a manner that will ensure that it will not be mistakenly or fraudulently released as suitable for processing or fit for human consumption.

2.3.11 **HC Spec 28 (1)**

Measuring equipment, such as scales, thermometers, pH meters, and flow meters (whether stand alone or forming part of a piece of equipment), that is used to provide critical measurements, must:

- have the accuracy, precision, and conditions of use appropriate to the task performed;
- be calibrated against a reference standard showing traceability of calibration to a national or international standard of measurement (where available), or (if no such reference standard exists) be calibrated on a basis that is documented in, or incorporated by reference into, the risk management programme; and
- be uniquely identified to enable traceability of the calibrations and to identify calibration status.

2.3.12 **HC Spec 28 (2)**

Minimum frequencies of calibration must be specified in the risk management programme for each piece of measuring equipment used to provide critical measurements, or used as reference standards, taking into consideration the following (as appropriate):

- the stability of the piece of equipment;
- the nature of the measurement; and
- the manufacturer's instructions.

2.3.13 **HC Spec 28 (3)**

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.

2.4 Procedures

2.4.1 Site

2.4.1.1 Potential sources of contamination must be considered when deciding where to locate the premises, as well as the effectiveness of any reasonable measures that might be taken to protect the product. Premises must be located 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.

2.4.1.2 Transport access ways, and areas between and around buildings, must be constructed and maintained so that they drain surface water, and minimise dust and other environmental contamination.

2.4.2 Buildings and facilities

Adequate facilities must be available for**:**

- the hygienic performance of all operations, including the extraction of honey, and the processing and packing of edible bee products;
- storage of products, packaging, ingredients, cleaning materials and other maintenance compounds, and other materials;
- storage and distribution of water;
- cleaning and sanitation of facilities and equipment;
- personnel hygiene (e.g. toilets, hand washing units, changing facilities); and
- effective drainage and disposal of wastes.

2.4.2.1 Adequate working space must be provided to allow for:

- the hygienic performance of all operations;

- access of personnel;
- installation of equipment;
- effective cleaning; and
- storage and access of materials.

2.4.2.2 Internal structures of buildings, including floors, ceilings and walls, must be designed and constructed in such a manner that:

- minimises contamination of the product;
- facilitates cleaning and maintenance;
- minimises the entrance and harbourage of pests; and
- minimises the entry of environmental contaminants.

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.

2.4.2.3 Floors that are subject to wet cleaning must be constructed of impervious material, be easily and effectively cleaned, and facilitate the drainage or removal of water.

Materials used in floor construction 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.

Concrete floors can be sealed using an epoxy type finish, a chemical sealant or acid resistant paint.

Floors should be sloped so that water will run off to floor drains.

2.4.2.4 Floor surfaces must be relatively smooth but not slippery.

A rough surface will trap small amounts of honey and water that will eventually go mouldy.

2.4.2.5 Floor joints in processing areas must be sealed with material impervious to liquids and finished flushed with the surface.

A suitable floor joint sealant is polyurethane or polysulfone epoxy mastic.

2.4.2.6 Floor and wall angles and joints must be constructed in a manner that can be effectively cleaned.

The floor/wall joint should be coved in areas where wet operations or cleaning occur to allow effective cleaning.

2.4.2.7 Walls in processing areas must be constructed of smooth, non-absorbent and washable material.

Insulated panels are recommended for the construction of processing areas. Laminates and melamine face sheeting are also suitable construction 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.

2.4.2.8 Wall joints must be sealed to prevent ingress of water, pests and contaminants.

2.4.2.9 If timber is used in doors, door jambs, and windows in processing areas, the timber must be sealed by the application of a durable, non-toxic, opaque surface coating.

Gloss enamel, epoxy or polyurethane paint will satisfy this requirement.

2.4.2.10 Lights and light fixtures over any edible bee product or exposed packaging material must be of a safety type, or otherwise protected to prevent contamination of products in the event of breakage.

2.4.2.11 Buildings and facilities must be designed to provide separation, by partition, location, or other effective means, between those operations, including waste disposal, which may cause contamination of any edible bee product.

2.4.2.12 Vehicle loading bays that are located within the building where processing occurs must have sealed floors to control dust.

2.4.3 **Equipment**

2.4.3.1 All equipment that come into contact with any edible bee product must be designed, constructed, installed and operated in a manner that:

- ensures the effective performance of the intended task;
- ensures effective cleaning;

- facilitates good hygienic practices, including monitoring; and
- do not cause contamination of the product.

2.4.3.2 Equipment must be able to be effectively cleaned by normal procedures without damage to the material's surface.

2.4.3.3 Equipment must be:

- durable
- resistant to chipping, flaking, delamination, abrasion;
- able to withstand exposure to heat, water and the particular bee product (e.g. honey is acidic) under normal operating conditions; and
- corrosion resistant.

2.4.3.4 All surfaces in direct contact with edible bee product must be inert to the product, cleaning materials and other substances under normal conditions of use.

2.4.3.5 The following materials must not be used in any equipment that may come in contact with honey:

- metals such as cadmium, lead and their alloys;
- sponge rubber, stone slab, leather and fabrics (excluding strainers/filters); and
- cast iron and galvanised iron.

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 allowed for product contact surfaces because it is readily corroded and surfaces become roughened and pitted, which makes cleaning difficult.

Galvanised metal is not allowed because the zinc coating wears off to expose the base iron sheet which corrodes. In addition, the zinc coating is soluble in acidic food, and in acid and alkali detergents.

Aluminum 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 microorganisms.

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 as 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.

2.4.3.6 Containers (e.g. plastic buckets) used within the premises for holding edible bee products, wiping cloths, cleaning materials, wastes or other materials must be clearly identified and differentiated as to their use (e.g. by labels or colour coding).

2.4.3.7 Measuring equipment, such as weighing scales, thermometers, and refractometers (whether stand alone or forming part of a piece of equipment) must have the accuracy, precision, and conditions of use appropriate to the task performed.

The calibration requirements specified in HC Spec 28 only apply to equipment that is used to provide critical measurements. Evaluation of typical honey processing operations in New Zealand indicates that it is unlikely there is a product or process parameter that can be considered as critical for food safety and is necessary to be controlled and measured by the processor. However, there may be other bee products intended for specific consumer groups that could require critical measurements to be taken. This should be determined by the operator when developing their RMP.

2.4.3.8 Suitable cleaning equipment that is maintained in a hygienic and good working condition must be available for cleaning and sanitising of equipment and facilities.

2.4.3.9 Outside waste bins must have tight fitting lids or covers.

2.4.4 Repairs and maintenance

All alterations, repairs and maintenance work on buildings, facilities and equipment must be done in a manner that minimises exposure of products to hazards introduced by this work.

2.4.5 Monitoring

Compliance to documented procedures must be regularly checked by the responsible person.

For extractors and packers who operate on a seasonal basis, compliance to requirements for design and construction should be checked before the start of each season. An example of a pre-season checklist is given in Appendix 1. [A copy of the checklist is available as a separate document to this Part for ease of downloading and use].

2.5 Records

2.5.1 Records giving the following information must be kept by the operator:

- Pre-season checklist, as applicable;
- Any problem detected regarding buildings, facilities and equipment;
- Any alterations or repairs done; and
- Any corrective action taken (including restoration of control, product disposition and prevention of recurrence).

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

Refer to Section 10 for record keeping requirements.

3 Potable Water

3.1 Purpose and scope

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.

3.2 Sources of hazards

Source	Examples of hazards
Faecal material (e.g. animal droppings, sewage)	Pathogenic microorganisms – *E. coli* spp, *Campylobacter* spp, *Crysptosproium, Giardia,* viruses
Agricultural chemicals (e.g. fertiliser, pesticides)	Nitrate
Soil	Pathogenic microorganisms – *E. coli spp, Campylobacter spp, Crysptosproium, Giardia,* viruses Toxic chemicals, e.g. arsenic, boron
Pipes and tanks	Copper
Roof paint for roof collected water	Lead

3.3 Mandatory requirements

HC Spec 8, 9, 10, 11, 12, Schedule 1

3.3.1 Water that comes into direct contact or indirect contact with any edible bee product must be potable water at the point of use.

3.3.2 The operator must implement a reticulation management plan for potable water used within a premises or place.

3.3.3 In addition to 3.3.2, operators must implement a water management plan if:

- water is supplied by an independent supplier and is subjected to any treatment by the operator;
- or water is supplied by the operator solely for the operator's use.

3.3.4 In addition to 3.3.2 and 3.3.3, operators that supply their own water must comply with the requirements of Schedule 1 of the current version of the Animal Products (Specifications for Products Intended for Human Consumption) Notice, including completing the *Checklist: Assessment of Water Supply Status* for water that comes into direct or indirect contact with any edible bee product.

3.4 Procedures

3.4.1 Supply

Adequate supply of potable water must be available and used for:

- cleaning of product contact equipment and surfaces;
- cleaning and sanitation of reused packaging;
- washing of hands of personnel involved in the handling of any edible bee product, packaging, and product contact equipment; and
- any other activity wherein water comes into direct or indirect contact with any edible bee product.

3.4.2 Criteria for potable water

The criteria for potable water are given in Table 1.

Table 1. Quality of Potable Water

Measurement	Criteria
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 NTU

3.4.3 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 3.4.4.1 Procedures for non-complying water – Section 3.4.4.2 Handling and disposition of contaminated materials – Section 3.4.4.3
Town supply or other independent supply with additional treatment[1] by operator	Management of reticulation system – Section 3.4.4.1 Procedures for non-complying water – Section 3.4.4.2 Handling and disposition of contaminated materials – Section 3.4.4.3 Water management plan, including water sampling and testing – Section 3.4.5
Operator's own supply (e.g. water sourced from a bore, river, stream, roof)	Management of reticulation system – Section 3.4.4.1 Procedures for non-complying water – Section 3.2.4.2 Handling and disposition of contaminated materials – Section 3.4.4.3 Water management plan – Section 3.4.6.1 Water sampling and testing – Section 3.4.6.2 Assessment[2] and reassessment of water supply status – Sections 3.4.6.1 and 3.4.6.3, and Schedule 1

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

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

3.4.4 Requirements for water from any source

The requirements given under this section applies to water from an independent supplier (e.g. council or town supply) and water supplied by the operator for their own use (e.g. roof water, river water, water from a bore).

An operator who uses potable water supplied by an independent supplier without additional treatment only needs to comply with the requirements given in this section 3.4.4.

3.4.4.1 Management of reticulation system (i.e. reticulation management plan)

a. The water reticulation system within the premises must be designed, installed and operated in such a manner that prevents:

- cross connections between potable and non-potable water;
- stagnant water (i.e. no dead ends and unused pipes); and
- back flow that may cause contamination of the water supply.

b. Water pipes, storage tanks and other parts of the reticulation system must be maintained in good condition.

c. The reticulation system must be flushed (i.e. taps are opened 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.

d. Operators involved in the seasonal extraction of honey or processing of other bee products must check and flush their reticulation system before pre-season cleaning is undertaken.

3.4.4.2 Procedures for non-complying water

All operations requiring the use of potable water must cease when:

- the independent supplier (e.g. local council) advises the operator that the water is not fit for drinking without additional treatment, or the operator has reason to believe that the water is not fit for use, and the operator has no other means described in the risk management programme to ensure the water is potable at the point of use; or
- if water used is supplied by the operator, and the operator fails to comply with any of the requirements of the water management plan (including corrective actions), and has no

other means described in the risk management programme to ensure the water meets the original standard at the point of use.

3.4.4.3 Handling and disposition of contaminated materials

When contamination with non-potable water occurs, the following actions must be carried out:

- affected edible bee product must not be used for human consumption;
- affected product contact surfaces must be cleaned and sanitised prior to reuse; and
- affected packaging materials that cannot be effectively cleaned and sanitised must not be used for packing of any edible bee product.

3.4.5 Additional requirements for water from an independent supply with additional treatment.

In addition to the requirements given in section 3.4.4 of this document, a water management plan must be documented and implemented for water from an independent supply with additional treatment. It must include:

- information on any additional treatments (including type of treatment; parameters; procedures for control, monitoring/testing; acceptable limits);
- a water sampling and testing programme for monitoring the effectiveness of the specific water treatment applied (as indicated in Table 2 or as necessary for the effective monitoring of any specific water treatment applied); and
- corrective action procedures when the water source is found to be unsatisfactory based on the results of any test done.

Examples of additional treatment that may be applied by the operator for water from an independent supply (e.g. council or town supply) are: chlorination, ultraviolet treatment, heating and filtration. The operator should discuss with the supplier of the particular treatment, the types and frequency of water testing necessary to confirm the effectiveness of the treatment and ensure that it does not adversely affect the quality of the water (e.g. clogging of filters).

3.4.6 Additional requirements for water supplied by the operator for own use

3.4.6.1 Water management plan

In addition to the requirements given in section 3.4.4 of this document, a water management plan must be documented and implemented for water that is supplied by the operator for their own use. It must include:

- an initial assessment of the water supply status by the operator by completing the *Checklist: Assessment of Water Supply Status* given in Schedule 1 of the current version of the Animal Products (Specifications for Products Intended for Human Consumption) Notice;

[A copy of the checklist is available in Appendix 2, which is provided as a separate document to this Part for ease of downloading and use.]

- information on any additional treatments (including type of treatment; parameters; procedures for control, monitoring/testing; acceptable limits);
- a water sampling and testing programme (as indicated in Table 2 or as necessary for the effective monitoring of any specific water treatment applied); and
- corrective action plan for water source, including the consideration for applying additional treatments, when water source is assessed as unsatisfactory based on the outcome of the checklist and/or the results of any tests done.

Schedule 1 is used to determine whether the water source is secure or satisfactory, and if additional treatment and/or other corrective action must be applied by the operator.

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). For more information on water safety and tank installation, read *Household Water Supplies* (code 4602), available from your local public health service or your local authority (council).

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

3.4.6.2 Water sampling and testing

a. Potable water at the point of use must meet the criteria set out in Table 1. The minimum testing frequency required is given in Table 2.

b. Microbiological testing must be done by a LAS (Laboratory Accredited Scheme) laboratory registered for the required analysis, or a laboratory with persons who are accredited as signatories for the required analysis.

c. Water samplers must be trained by or receive instruction on how to correctly sample water from the laboratory selected.

d. Chlorine, pH and turbidity measurements must be performed by a suitably skilled person using documented methodologies (including calibration procedures) and/or calibrated equipment.

Table 2: Frequency of 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.

3.4.6.3 Reassessment of the status of operator supplied water

The potable water supply must be reassessed by operators who supply their own water by completing the *Checklist: Assessment of Water Supply Status* at least once every 3 years and within the time specified as follows:

- in the case of a new source of water being used (that is, the source changes or a new source is added), the checklist is completed prior to use of the water; and
- in the case of any changes to the environment on or around the water source that may affect the water quality, the checklist is completed within 1 month.

3.4.7 Monitoring

Compliance with these procedures must be regularly checked by the responsible responsible.

3.5 Records

Records containing the following information must be kept by the operator:

- completed *Checklist: Assessment of Water Supply Status* (for operator supplied water)
- water management plan, if applicable
- water testing results, if applicable
- observations from monitoring, any water treatment applied, and any corrective action taken.

4 Cleaning and Sanitation

4.1 Purpose and scope

To ensure the effective maintenance, cleaning and sanitation of the premises, facilities and equipment so as to prevent or minimise the contamination of edible bee products.

4.2 Sources of hazards

Source	Examples of hazards
Facilities and equipment	Bacterial pathogens, e.g. *Listeria* spp., *E.coli* spp.
Waste	Bacterial pathogens, e.g. *E. coli* spp., *Salmonella* spp.
Cleaning chemicals	Chemical residues
Cleaning implements (e.g. mops, rags)	Bacterial pathogens, e.g. *Listeria* spp., *E.coli* spp.

4.3 Mandatory requirements

4.3.1 AP Reg 11

All operators must establish and carry out procedures to:

- ensure appropriate and adequate maintenance, cleaning, and sanitation of processing premises, facilities, essential services, and equipment (including conveyances);
- manage waste; and
- control pests.

4.3.2 HC Spec 21(1)

Only approved maintenance compounds may be used during processing operations or in the maintenance of processing areas, facilities and equipment.

4.4 Procedures

4.4.1 Pre-season cleaning and maintenance check for extraction premises

4.4.1.1 Before the start of each extraction season, a complete and thorough cleaning of the extraction premises, facilities and equipment must be carried out. All facilities, essential services (e.g. water, power) and equipment must be checked to ensure that they are in good working order ready for operation to commence.

A record that these tasks have been completed must be kept by the operator . An example of a pre-season checklist is given in Appendix 1. [A copy of the checklist is available as a separate document to this Part for ease of downloading and use].

4.4.1.2 All materials and items that may have been stored in the hot room or store room, and extraction room during the off-season that are not necessary for the extraction operation must be removed from the rooms.

4.4.1.3 Walls, floor, ceiling, windows, doors, light fixtures, sinks, fans, bee escapes and other fixtures must be cleaned 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.

The condition of the floor and walls should be checked. They may need to be resealed.

4.4.1.4 All product contact surfaces, including equipment, containers and other implements, must be washed with a suitable detergent, sanitised, rinsed, drained and allowed to dry.

4.4.1.5 External areas surrounding the buildings and access ways must be cleaned and tidied. They must be free from any evidence of pest infestation or accumulated waste.

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

4.4.2.1 Wet cloths may be used for the ongoing wiping of external surfaces of equipment to remove honey residue. The cloths must be maintained in a clean and sound condition. Water contained in buckets for rinsing wiping cloths must be replaced often.

Wiping cloths must not be used for wiping contaminated surfaces such as the floor. They must be washed with detergent and sanitised daily.

It is common industry practice to replace the water in buckets every hour or more frequently when the water becomes visibly 'dirty'.

Wiping cloths can be sanitised by soaking in a sanitiser or in chlorinated water.

4.4.2.2 Honey spills on the processing floor must be cleaned up immediately. Spilt honey must not be used for human consumption. Provided it is not contaminated with any chemical substance, spilt honey may be used for animal consumption. Any contaminated honey must be clearly identified as "Not Intended for Human Consumption".

4.4.2.3 Waste must be collected in identified waste containers and must not be allowed to accumulate where it can contaminate any edible bee product or product contact surfaces.

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

4.4.3.1 Products, packaging material and other materials that may be contaminated during wash down must be removed from the area and stored in appropriate locations, or they must be protected by covering them.

4.4.3.2 Waste collected during the day must be removed from the area and disposed of appropriately in designated waste bins.

4.4.3.3 Floors must be cleaned by hosing or other effective means. Water must be drained or removed completely.

4.4.3.4 Visible contamination on walls must be removed by hosing, wiping with clean wet cloths or by other effective means.

4.4.3.5 Refrigerated processing rooms must be kept free of condensates.

4.4.3.6 Equipment, including the pricker/loosener, uncapper, extractor, sump, conveyors, and work tables, must be washed and sanitised whenever it is necessary to:

- enable the effective performance of the particular task;
- remove residual honey that is contaminated with a hazard;
- remove the buildup of foreign matter (e.g. wax, insects, and other debris);
- prevent pest contamination of the honey; and
- satisfy commercial requirements (e.g. switching to organic).

4.4.3.7 External surfaces of all equipment must be cleaned so they are visibly clean and free of honey and bee product residues, dirt, dust, moulds, insect parts and waste, and other debris.

External surfaces of equipment are generally wiped clean with wet cloths, or hosed down as necessary.

4.4.3.8 Dead and live bees must be removed from the extraction, processing, and packing rooms.

4.4.4 Cleaning of storage areas

4.4.4.1 Packed products, raw materials, packaging and other materials must be stacked and stored in a tidy manner. Adequate space must be available to allow effective cleaning in the storage area.

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

4.4.4.2 Spills must be cleaned up immediately.

4.4.4.3 Damaged packaged products and other materials must be removed and disposed of as soon as possible.

4.4.4.4 Dry stores must be kept dry and must be cleaned regularly by sweeping or vacuuming.

4.4.5 End of season cleaning and off-season maintenance

4.4.5.1 Facilities, walls, floor, ceiling, windows, doors, light fixtures, fans, bee escapes and other fixtures must be cleaned 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.

4.4.5.2 Equipment must be disassembled as necessary, thoroughly cleaned by washing, and dried to ensure that there is no honey residue that may attract pests and allow mould growth.

4.4.5.3 The following materials must not be stored in the hot room, extraction room, or any other processing room:

- poisonous chemicals (e.g. solvents, insecticides, paint, fuel);
- items heavily contaminated with soil, dirt, waste and other contaminants;
- any organic material (e.g. fruits) that may deteriorate and cause microbiological contamination and pest infestation; and
- any other material that could leave residual contaminants after the pre-season cleaning.

4.4.5.4 External areas must be maintained in a tidy condition so as not to attract pests and allow infestation.

The operator should do maintenance work on facilities and equipment during the off-season.

4.4.6 Cleaning of amenities

Amenities must be cleaned regularly and maintained in a hygienic condition.

4.4.7 Maintenance of cleaning equipment

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

4.4.8 Monitoring

Compliance to documented procedures and the effectiveness of the cleaning programme must be regularly checked by the responsible person.

4.5 Records

Records containing the following information must be kept by the operator:

- cleaning records
- pre-season cleaning checklist, as applicable.

Records may be kept in a daily diary, logbook, record form or checklist. Refer to Section 10 for record keeping requirements.

5 Personnel Competency, Health and Hygiene

5.1 Purpose and scope

To ensure that all personnel are competent and medically fit to perform their duties, and that they comply with good hygienic practices. Personnel include all workers, contractors providing services, and visitors.

5.2 Sources of hazards

Source	Hazard
Person	Bacterial pathogens, e.g. *Salmonella* spp*, E. coli* spp*., Staphylococcus aureus* Hepatitis A virus
Clothing/footwear	Bacterial pathogens, e.g. *Salmonella* spp*, E. coli* spp*., Clostridium* spp*.*
Personal items (e.g. jewellery, pens, hair clips,)	Metal objects

5.3 Mandatory requirements

5.3.1 RMP Spec 13 (2)

The operator must document the competencies needed by:

- the day-to-day manager;
- those persons authorising all or part of the risk management programme; and
- those persons performing key tasks under the risk management programme including monitoring, corrective action, and operator verification.

5.3.2 RMP Spec 13(3)

The operator must keep records demonstrating that the competencies mentioned in 5.3.1 have been achieved and maintained.

5.3.3 **AP Reg 12**

The operator must ensure that all personnel whose presence or action within the premises may result in contamination of edible bee product:

- wear appropriate protective clothing, where necessary;
- follow an appropriate personal hygiene routine; and
- behave in such a manner as necessary to minimise contamination of edible bee product, other inputs, packaging and the processing environment.

5.3.4 **HC Spec 23(1)**

The operator must take reasonable measures to ensure that a person (including any visitor or contractor) who is:

- infected with, or a carrier of, an infectious disease in a communicable form as described in Section A, Part 1, of the First Schedule of the Health Act 1956, and that is likely to be transmitted through edible bee products or associated things; or
- suffering from acute respiratory infection; or
- suffering from boils, sores, infected wounds, or any other condition that cannot be adequately prevented from becoming a source of contamination;

does not work as a product handler in, or enter, an area where he or she may adversely affect the fitness for intended purpose of edible bee product.

5.3.5 **HC Spec 23(2)**

A product handler suffering from an illness described in HC Spec 23 (1) must provide a certificate from a registered medical practitioner confirming that he/she is no longer likely to be a source of contamination, prior to resuming work involving the handling of food and food contact materials.

5.3.6 **HC Spec 23(3)**

A product handler suffering from boils, sores or infected wounds or any other condition that cannot be adequately prevented from being a source of contamination must be assessed by a suitably skilled person to confirm that the worker is no longer likely to be a source of

contamination, or he/she is adequately protected from being a source of contamination, before being allowed to work involving the handling of edible bee product and product contact materials.

5.4 Procedures

5.4.1 Competencies

5.4.1.1 The day-to-day manager or person authorising all or part of the RMP must be familiar with the documented risk management programme and have the following competencies:

- have knowledge in food safety, and hygienic procedures and practices documented in this code of practice;
- have knowledge in regulatory requirements, including responsibilities, related to the effective development and implementation of the risk management programme;
- have technical knowledge and experience in the particular product/process; and
- able to liaise and communicate effectively with workers and the regulator.

5.4.1.2 Workers performing key tasks including monitoring, corrective action, and operator verification must have the following competencies:

- have knowledge and skill in executing the particular task; and
- be familiar and able to consistently comply with hygienic practices and procedures.

5.4.2 Induction and on-going supervision of workers

5.4.2.1 New workers must be informed of their job description, health requirements, and hygienic practices and procedures before starting work.

5.4.2.2 Ongoing supervision and/or training must be provided to ensure that new workers are adequately trained on their specific tasks and on hygienic practices and procedures.

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

5.4.3 Health of workers

5.4.3.1 Workers must inform the person responsible for operations if he/she is suffering from diarrhea, acute respiratory infection; or is diagnosed with illness caused by *Salmonella*, *Shigella* spp., *E. coli* spp., *Campylobacter*, Hepatitis A virus infection.

5.4.3.2 Any injury, wound, or cut must be treated immediately and dressed with a secure waterproof dressing to prevent the contamination of any product, packaging or equipment with blood or other fluid discharge. The dressing must be maintained in a sanitary condition and adequately secured to avoid dislodgement.

5.4.4 Hygienic practices

5.4.4.1 All personnel who enter any processing or packing areas must wear suitable clean protective clothing and foot wear. Protective clothing (e.g. coats, overalls, aprons) must be visibly clean at the start of each day's operation.

Foot wear must be suitably clean so it does not cause soil, mud, grass and other plant material, and other dirty material to be brought into processing and packing areas.

Hair covering (e.g. cap) should be worn by workers involved in the processing and packing of honey.

5.4.4.2 All personnel must thoroughly wash and dry hands and exposed portions of the arms with hand detergent and water:

- before entering any processing or packing areas;
- before handling any product or exposed packaging;
- after using the toilet;
- after handling or coming into contact with waste and contaminated surfaces or material; or
- after hand contamination from coughing, sneezing, and blowing the nose.

Hand washing water in buckets may be used by workers during processing only for the purpose of removing sticky honey residues on hands. It must not be used for washing contaminated hands (i.e. as covered in 5.4.4.2). Water must be changed on a regular basis and must not become a source of contamination.

5.4.4.3 The following activities are not allowed 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.

Individual water bottles may be used by personnel working in the extraction area. A clean disposable utensil should be used for tasting honey.

5.4.4.4 Workers involved in the handling of edible bee product must not wear 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.

5.4.4.5 Personal items such as lollies and cigarettes must not be taken into processing or packing areas.

5.4.5 Visitors and contractors

5.4.5.1 Visitors and contractors must report to the responsible person on arrival at the premises. They must be supervised by an assigned staff while within the premises. It is the responsibility of the assigned staff to ensure that hygienic practices and procedures are followed by the visitor or contractor.

Visitors and contractors who will enter a processing or packing area should sign a visitor's logbook on arrival.

5.4.5.2 Visitors and contractors must not be allowed to handle edible bee product in processing and packing areas unless they have complied with all the hygiene requirements for product handlers.

5.4.6 Handling and disposition of contaminated materials

When contamination from blood or any body discharge occurs, the following actions must be carried out:

- affected product must be considered unfit for human or animal consumption;
- affected product contact surfaces must be cleaned and sanitised prior to reuse; and
- affected packaging materials that cannot be effectively cleaned and sanitised must not be used for packing of any edible bee product.

5.4.7 Monitoring

Compliance to documented procedures must be regularly checked by the responsible person.

5.5 Records

Records giving the following information must be kept by the operator:

- any medical certificates
- induction or training of personnel
- monitoring records of compliance to hygienic practices and/or of any problems observed and any corrective action taken (including restoration of control, product disposition and prevention of recurrence).

Records may be kept in a daily diary, logbook, record form or checklist. Refer to Section 10 for record keeping requirements.

6 Control of Chemicals

6.1 Purpose and scope

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

6.2 Sources of hazards

Source	Examples of hazards
Maintenance compounds (e.g. cleaning agents, pesticides, lubricants)	Chemical residues
Chemical containers	Chemical residues

6.3 Mandatory requirements

6.3.1 HC Spec 21(1)

Only approved maintenance compounds may be used during processing operations or in the maintenance of processing areas, facilities and equipment.

6.3.2 HC Spec 21 (2)

All containers of chemicals held and used within the premises must be labelled with the name of the chemical as they appear in the list of approved maintenance compounds contained in specifications.

6.3.3 AP Reg 11(3)

Chemicals must be stored, handled, and used in a manner that minimises contamination of honey and other bee products, other inputs, packaging, equipment, and the processing environment.

6.4 Procedures

6.4.1 Approved chemicals

A list of all approved chemicals used and held in the premises must be maintained.

All chemicals should be checked during purchase or upon receipt to confirm that they are in the Approved List or the supplier is able to provide an approval letter from the NZFSA.

6.4.2 Storage

6.4.2.1 Chemicals must be stored in a designated area (e.g. shelf, cupboard, room) and kept separate from edible bee products, ingredients, and packaging.

6.4.2.2 Chemicals must be kept in sealed containers when not in use.

6.4.2.3 All containers and implements used for measuring or pouring of chemicals must be clearly identified (e.g. labelled as 'For Chemicals Only') to ensure no secondary use of these containers.

6.4.2.4 Storage areas must be kept clean and tidy.

6.4.3 Use

6.4.3.1All chemicals must be used according to the directions of the manufacturer and the conditions of the NZFSA approval. Directions for use must be readily available to the user (e.g. given in the label, posted on the wall or in product information data sheets).

6.4.3.2 Chemicals must be handled and used by or under the supervision of suitably trained or experienced personnel.

6.4.3.3 Products and exposed packaging must be removed from the area or kept protected (e.g. covered) prior to the use of chemicals which may result to their contamination.

6.4.3.4 Equipment and other product contact surfaces must be cleaned by thorough washing after exposure to any chemical (i.e. after spraying with insecticide is completed).

6.4.4 Handling and disposition of contaminated materials

6.4.4.1 Empty chemical containers must be disposed of in accordance with manufacturer's instructions.

6.4.4.2 Empty chemical containers must not be re-used for any other purpose within the premises.

6.4.4.3 When chemical contamination occurs, the following actions must be carried out:

- affected products must be considered unfit for human or animal consumption;
- affected food contact surfaces must be cleaned and sanitised prior to reuse; and
- affected packaging materials that cannot be effectively cleaned and sanitised must not be used for packing of any edible bee product.

6.4.5 Monitoring

Compliance to documented procedures must be regularly checked by the responsible person.

6.5 Records

Records giving the following information must be kept by the operator:

- list of approved chemicals used and held in the premises
- records of any problems detected and any corrective action taken (including restoration of control, product disposition and prevention of recurrence).

Records may be kept in a daily diary, logbook, record form or checklist. Refer to Section 10 for record keeping requirements.

7 Pest Control

7.1 Purpose and scope

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. Pests include rodents, birds, insects (including bees), dogs and cats.

7.2 Sources of hazards

Source	Examples of hazards
Insects, rodents, birds, cats and dogs	Bacterial pathogen, e.g. *Salmonella*, *Campylobacter* spp., *E.coli* spp., *Listeria monocytogenes*
Pesticides	Chemical residues

7.3 Mandatory requirements

7.3.1 AP Reg 11 (2) (3)

Effective procedures must be established and carried out to minimise the exposure of edible bee product, packaging, other inputs, equipment, and the processing environment to hazards associated with pests.

7.3.2 AP Reg 10

Premises, facilities, equipment and essential services must be designed, constructed, located and operated to minimise the exposure of edible bee product to hazards and other risk factors from pests.

7.3.3 AP Reg 11(3)

Chemicals must be stored, handled, and used in a manner that minimises contamination of edible bee product, other inputs, packaging, equipment, and the processing environment.

7.4 Procedures

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. The operator is responsible for ensuring that the person or agency responsible is competent to perform the task.

7.4.1 Prevention of infestation and access of pests

7.4.1.1 Buildings and storage facilities (including water storage tanks) must be kept in good repair and condition to prevent pest access and to eliminate potential breeding sites.

7.4.1.2 Holes, drains and other places where pests are likely to gain access must be kept sealed, or provided with screens or similar materials that prevent the entry of pests.

Mesh screens should be used 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.

7.4.1.3 External doors that are not screened must be kept closed at all times when not in use.

7.4.1.4 Internal and external areas of the premises must be kept clean and tidy. The external environment must be checked regularly and kept free of any food source and breeding sites (e.g. long grass, bird's nest).

Areas that are likely to attract flies and other insects should be sprayed, as necessary.

7.4.1.5 Dogs, cats and other mammalian pests must not be permitted to enter processing, packaging and storage areas.

7.4.1.6 Waste materials must be kept in covered pest-proof containers, and regularly collected and disposed of.

7.4.2 Use of pesticides

7.4.2.1 Pest control chemicals (rodenticides and insecticides) must be handled, used and stored according to the control procedures given in Section 6: Control of Chemicals.

7.4.2.2 Insecticides that have any residual activity or are dispensed as continuous aerosols must not be used in any processing or storage area in a manner that could cause the contamination of edible bee product or product contact surfaces.

7.4.2.3 Edible bee products and exposed packaging must be removed from the area or kept protected (e.g. covered) prior to the use of chemicals which may result to their contamination. Equipment and other product contact surfaces must be cleaned by thorough washing after exposure to any chemical (i.e. after spraying with insecticide is completed).

7.4.3 Use of pest traps

7.4.3.1 Pest traps (including rodent boxes, bait stations and electric insect traps) must be located where they do not present a risk of contamination to the product.

7.4.3.2 Bait stations must not be located inside any processing area.

The location of pest traps should be identified on a site or building plan, or other suitable record.

7.4.3.3 Rodenticides must be used only in enclosed bait boxes.

7.4.3.4 Bait stations must be checked regularly for the following:

- correct location as indicated in the plan or record, and presence of bait. The box should be cleaned and rebaited with an approved rodent bait, as necessary;
- evidence of pest activity (e.g. nibbled bait, bait missing, droppings); and
- boxes are in good working condition and numbering is easily legible.

The frequency for monitoring of traps should be determined 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.

7.4.3.5 Insect traps, which include ultra-violet lamps, pheromone traps and any form of attractant device, must:

- be constructed so they catch and secure insects in a suitable drawer, tray or adhesive mat which facilitates the capture and removal of insects;
- not cause any air-borne contamination; and

- be sited so there is no contamination from insects falling on to edible bee product, packaging, or product contact surfaces.

7.4.4 Handling and disposition of contaminated materials

Where there is evidence of contamination from pests (excluding bees), the following actions must be carried out:

- the affected product must be considered unfit for human consumption;
- the affected product contact surfaces must be cleaned and sanitised prior to reuse; and
- affected packaging materials that cannot be effectively cleaned and sanitised must not be used for packing of any edible bee product.

7.4.5 Monitoring

Ongoing compliance to documented procedures, and the effectiveness of the pest control programme must be regularly checked by the responsible person.

7.5 Records

Records containing the following information must be kept by the operator:

- observations from monitoring, including any evidence of pests
- location of bait stations
- list of approved chemicals used
- name, amount and point of use of any pesticides used; and
- any corrective action taken (including restoration of control, product disposition and prevention of recurrence).

Records may be kept in a daily diary, logbook, record form or checklist. Refer to Section 10 for record keeping requirements.

8 Packaging Materials (Specifications, Storage & Handling)

8.1 Purpose and scope

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

8.2 Sources of hazards

Source	Hazard
Metal drums	Metal, chemical residues
Plastic packaging	Chemical residues
Glass bottles	Glass

8.3 Mandatory requirements

8.3.1 HC Spec 30 (1)

Packaging must:

- comply with the current US Code of Federal Regulations, Title 21, Parts 170–199 (21 CFR 170–199); or
- comply with the current "Australian Standard for Plastics Materials for Food Contact Use, Australian Standard AS2070–1999"; or
- be determined by the operator to be suitable for use, based on an analysis of hazards and other risk factors from the packaging.

8.3.2 HC Spec 30 (3)

If the packaging is damaged such that the fitness for intended purpose of edible bee product may be affected, the product must be appropriately disposed of or handled in a manner that minimises contamination until the damage to the packaging is rectified.

The Australia New Zealand Food Standards Code does not specify details of materials permitted to be added to or used to produce food packaging materials. However, the effect of the New Zealand Food Act 1981 section 9(4)(c) is that packaging when used must 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 would be reasonable evidence that materials are suitable for food use.

8.4 Procedures

8.4.1 Metal drums

8.4.1.1 Construction

All metal drums, including new, reused and reconditioned drums, must be coated or lined with a food grade coating. The coating must:

- provide a barrier between the metal surface of the drum and honey;
- be inert;
- not impart any flavour to honey;
- be suitable for acidic foods such as honey; and
- be resistant to delamination, flaking or peeling.

The internal lining should be approved by the US FDA under Code of Regulations 175.300.

For drums that are to be reused, a heavy duty lining, such as a food grade epoxy phenolic lining (Coat G), is recommended.

A specification or letter confirming the suitability of the lining should be provided by the drum supplier.

8.4.1.2 Reused or reconditioned drums

a. Drums that have been used to contain non-food materials (e.g. petroleum products and other chemicals) must not be reused for honey.

Care must 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.

b. Reused drums that have contained other foods such as sucrose, glucose, or orange juice must be thoroughly washed and dried, in such a manner as to remove all residues of the food material, before using for honey.

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.

8.4.1.3 Inspection of drums

a. Drums must be checked for damage, deterioration and contaminants prior to use to ensure that they are suitable for containing honey.

Drums should have tightly fitted bungs. Loose bungs indicate that water and other contaminants could have entered the drums.

b. The internal surface of drums must have no cracks, rust, delaminated coatings, and other defects or damage that may impact on the safety and suitability of honey.

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.

c. Badly dented drums must not be used.

Dents can lead to cracking or delamination of the internal lining, and weakening of seams.

d. Drums that contain residues of fermented honey must be washed and dried before reuse.

8.4.1.4 Storage and handling of drums

a. Empty and full drums must be stored in a manner that prevents deterioration of the drums, and the entry of water and contaminants into the drums.

Empty and full drums should be stored 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. A significant change in temperature or a temperature gradient within the drum will create a vacuum and allow air and moisture to be sucked into the drum.

The top of full drums that are stored outside should be covered 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).

Empty and full drums should be stored off the ground (e.g. use pallets).

b. Drums should have properly fitted bungs that prevent the entry of moisture and other contaminants.

c. Drums must be handled and transported in such a manner that prevents dents and other forms of damage.

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.

8.4.1.5 Washing and drying of drums

a. Potable water must be used for washing of drums.

b. Drums must be completely dried after washing and before being sealed with a bung.

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

8.4.2 Other bulk containers

Other bulk containers (e.g. Pallecon, Ecobulk) must comply with the relevant requirements specified in 8.4.1.

8.4.3 Plastic packaging

8.4.3.1 Plastics for food contact use must be 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. Plastic materials included in this Australian Standard are:

- polyethylene
- polyvinyl chloride compound (PVC)
- styrene plastics material
- acrylonitrile plastics material
- polypropylene
- poly vinylidene chloride compound (PVDC)

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.

8.4.3.2 Packaging materials must be adequately protected during transport to the premises and during storage, against dust, pest and other contaminants, and physical damage.

8.4.4 Glass jars

8.4.4.1 Metals lids must be coated or lined with a food grade material suitable for an acidic food such as honey.

8.4.4.2 Glass jars must be adequately protected during transport to the premises and during storage, against dust, pest and other contaminants, and physical damage.

Glass jars should be stored in an inverted position.

8.4.4.3 Glass jars must be handled in manner that does not cause any breakage or other damage.

8.4.4.4 Broken glass must be removed and discarded immediately. A thorough check must be carried out to ensure that all broken pieces are removed.

8.5 Monitoring

Ongoing compliance to documented procedures must be regularly checked by the responsible person.

8.6 Records

Records giving the following information must be kept by the operator:

- letters of guarantee from suppliers
- records of any problems detected and any corrective action taken (including restoration of control, product disposition and prevention of recurrence).

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

Refer to Section 10 for record keeping requirements.

9 Receipt and Processing of Honey and Dried Pollen

9.1 Purpose and scope

To ensure that honey or any other edible bee product that is received for processing is fit for its intended purpose and meets the requirements of the current version of the Animal Products (Specifications for Products Intended for Human Consumption) Notice clause 108.

To ensure that honey or any other edible bee product is processed in a manner that minimises its contamination and deterioration, and maintains its fitness for intended purpose.

9.2 Mandatory requirements

9.2.1 HC Spec 108

Note: The “Apiarist and Beekeeper Statement” or “statement” referred to in this clause is commonly called a “Harvest Declaration” by industry.

1. An apiarist or beekeeper must ensure that all honey or other bee products are harvested so that they :

a. meet the requirements of the apiarist and beekeeper statement for the harvest of honey or other bee products for human consumption as set out in the form approved by the Director-General; and

b. are free from plant toxins, including phytotoxins of the native plant tutu (Coriaria spp); and

2. If the apiarist or beekeeper has reason to believe that the honey or other bee products would exceed any MRL or MPL, that person must not present the animal material for processing.

3. An apiarist or beekeeper must complete and sign the statement for each lot of honey or other bee products and keep a copy of every statement for a minimum of 4 years, except where subclause (6) applies.

4. An apiarist or beekeeper must provide a copy of the statement to the secondary processor with each consignment of honey or other bee products before processing by the secondary processor commences.

5. If the statement cannot be completed with a "No" in response to the questions regarding plant toxins, agricultural compounds and veterinary medicines, the affected honey or other bee products must not be processed for human consumption, unless the apiarist or beekeeper or processor has obtained prior written approval from the Director-General. The Director-General may impose conditions on the approval, and the apiarist, beekeeper or processor must comply with those conditions.

6. Where an apiarist or beekeeper processes honey or other bee products themselves for trade intended for direct consumption without further processing, then the apiarist or beekeeper may keep records containing the information required by the statement, in accordance with the requirements of clause 34(2) and (3) of the human consumption specifications.

7. If the records kept under subclause (6) show that the honey or other bee products contain plant toxins, unapproved agricultural compounds including unapproved veterinary medicines, they must not be processed for human consumption or traded, unless prior written approval from the Director-General has been obtained. The Director-General may impose conditions on the approval and the apiarist or beekeeper must comply with those conditions.

8. Where a statement is received by a secondary processor which indicates that the honey or other bee product may not be suitable for consumption without further processing, this information must be provided to subsequent processors unless the material is processed by that processor such that it is no longer a risk to human health.

9.2.2 **AP Reg 9**

The operator must ensure that honey and other bee products in their charge are processed in a manner that minimises their contamination or deterioration.

9.2.3 **HC Spec 32 (3)**

Labelling must be provided on transportation outers and must state:

- the product name or description;
- storage directions, where necessary to maintain the product as fit for intended purpose;

- lot identification (except that this requirement is optional if the application of lot identification to the retail packaging is a mandatory requirement under other legislation and that legislation is complied with).

9.2.4 **HC Spec 32 (4)**

Mandatory labelling must be clear, legible, indelible, and use terms that are commonly used in the English language or other language approved by the Director-General.

9.2.5 **HC Spec 32(5)**

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.

9.2.6 **HC Spec 32B**

If the status of a 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.

9.2.7 **HC Spec 34(3)**

An inventory control programme must be documented for animal material and product and records maintained.

9.3 Procedures for the receipt of honey, pollen and other bee products

Note: The "Apiarist and Beekeeper Statement" or "statement" referred to in this section is commonly called as "Harvest Declaration" by industry.

9.3.1.1 Each consignment or lot of honey supers, pollen or other bee product must not be processed without an *Apiarist and Beekeeper Statement* indicating that it is suitable for processing for human consumption.

When an apiarist or beekeeper extracts honey from supers from her/his own apiary, an *Apiarist and Beekeeper Statement* does not need to be completed provided all the information required by the statement is recorded in some form by the apiarist or beekeeper.

9.3.1.2 When the *Apiarist and Beekeeper Statement* 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), it must not be processed unless a written approval from the Director-General is obtained by the apiarist, beekeeper or processor.

9.3.1.3 Each consignment or lot of honey supers, pollen, or other bee product must be clearly identified so that it can be easily linked to the *Apiarist and Beekeeper Statement*.

9.4 Procedures for the processing of honey

9.4.1 Receiving of supers

9.4.1.1 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.

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

9.4.1.2 Honey supers that are infested, excessively dirty, or contaminated with faecal material (e.g. rodent or bird faeces) must not be accepted for processing.

Beekeepers 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.

Full or empty supers should be protected during storage from contamination from pests, wastes, and environmental contaminants.

Supers should be transported on clean trucks and covered during transport in a manner that minimises dust, engine fumes and other road-based contamination.

9.4.2 Holding of full honey supers

9.4.2.1 Full honey supers must be stored in a suitable storage area or hot room.

9.4.2.2 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.

8.4.2.3 Entry of live bees into the storage area, hot room or extraction room must be minimised.

9.4.3 Deboxing and uncapping

9.4.3.1 Deboxing must be done in a manner that will minimise transfer of contamination from boxes to combs.

Combs should be visually inspected to ensure that contaminated combs are removed and excluded from processing. Combs that have the following condition should be excluded from processing:

- infested with wax moth larvae;
- contain dead brood (bee larvae); or
- with signs of rodent infestation (e.g. faecal pellets, urine odour).

9.4.3.2 Uncapping equipment (i.e. knives, blades, hoses, clamps) must be in a hygienic and good working condition that does not allow water, steam or lubricant to leak into honey.

9.4.3.3 When the uncapper is defective, uncapping must cease until the problem is fixed.

9.4.4 Extraction

9.4.4.1 The extractor must be clean and dry before the start of extraction.

9.4.4.2 Wax, caramelised honey, and foreign matter (e.g. wax, dirt, dead bees) must not be allowed to build up in the extractor.

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 Section 4: Cleaning and sanitation.

9.4.4.3 The extractor must be covered 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.

9.4.4.4 Honey that has been spilt onto the processing floor must not be used for human consumption. Provided it is not contaminated with any chemical substance, spilt honey may be used for animal consumption.

Any contaminated honey must be clearly identified as “Not Intended for Human Consumption”.

9.4.5 Transfer of honey through the sump tank

9.4.5.1 Wax and other debris must be removed from the sump tank at least daily.

9.4.5.2 Sump tanks must be constructed and located in such a manner that prevents contamination of the honey from water (including splashes from the floor), condensates, dust and other contaminants.

The sides of the sump should extend above the floor height to prevent floor dust and other contamination entering the honey. The minimum height of the sides should be 150 mm and the preferred height 300 mm high above floor level. (From the Reference Manual of Capilano Honey Ltd)

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

9.4.6 Straining/filtering

9.4.6.1 Strainers and filters must be made of material that is suitable for food.

9.4.6.2 The mesh size of the strainer or filter must be suitable for the type of material that is being filtered from honey.

9.4.6.3 Strainers or filters must be maintained in good condition and must not be a source of contamination.

9.4.7 Holding of extracted honey in tanks

9.4.7.1 Holding tanks must be clean and dry before filling with honey.

9.4.7.2 Tanks containing honey must be protected from the entry of bees and other insects, condensates, dust and other contaminants.

9.4.8 Filling of honey into drums or other bulk containers

9.4.8.1 Drums and other bulk containers must comply with the requirements given in section 8.4.1 of this COP.

9.4.8.2 Honey must be filled into drums or other bulk containers in a manner that prevents contamination of honey.

9.4.8.3 Full drums or other bulk containers must be sealed with tightly fitted bungs.

9.4.8.4 Full drums or other bulk containers must be permanently marked or identified so that it can be easily linked to the relevant *Apiarist and Beekeeper Statement* (i.e. Harvest declaration).

9.4.9 Storage of full drums or other bulk containers

Full drums or other bulk containers must be stored in accordance with requirements given in section 8.4.1 of this COP.

9.4.10 Processing of liquid and creamed honey

9.4.10.1 The external surface of stored honey drums must be washed in an appropriate manner to minimise contamination of honey as it is removed from the drum.

9.4.10.2 Honey must be transferred into vats or tanks in a hygienic manner.

9.4.10.3 Creaming tanks must be protected from the entry of bees and other insects, condensates, dust and other contaminants.

9.4.10.4 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).

9.4.10.5 Starter honey must not be a source of contamination and must be mixed into the product in a hygienic manner.

9.4.11 Processing of comb honey

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 should impose strict controls for sourcing honey combs to minimise the risk from tutin.

9.4.11.1 Combs that are infested, travel stained, dirty, contaminated with faecal matter; or contain brood or fermented honey must not be processed into comb honey.

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

9.4.11.2 Comb honey must be inspected using a light source or similar device to detect any remaining wire or other foreign matter.

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

9.4.11.3 Only chemicals approved as fumigants for comb honey must be used for fumigating combs to kill wax moth.

9.4.11.4 Honey combs must be adequately packed or protected during freezing to ensure that contamination from other sources is prevented.

Freezing to kill wax moth may be done off-site (i.e. outside the boundaries of the operator's risk management programme) provided the freezing operation is undertaken in a premises covered by a risk management programme under the Animal Products Act 1999.

9.4.12 **Packing and labelling**

9.4.12.1 Prior to filling of honey, containers must be inspected for damages (e.g. broken glass) and foreign objects.

9.4.12.2 The filling machine for liquid or creamed honey must be set up and operated correctly to prevent spillage.

9.4.12.3 The capping machine must be set up and operated correctly to prevent breakage of glass jars.

9.4.12.4 Defective packs must be segregated and disposed of appropriately in designated bins.

9.4.12.5 The label on a package of honey must meet the general labelling requirements under the Animal Products Act 1999 and the Food Standards Code.

9.4.12.6 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.

Representative samples of product should be collected, identified and stored for the required time period for testing and examination, if required.

9.5 Procedures for the processing of pollen

9.5.1 Receipt of pollen

9.5.1.1 The operator must ensure that pollen received for processing is fit for intended purpose.

9.5.1.2 Pollen must not be mouldy. Mouldy pollen is not fit for human consumption and must be discarded.

Pollen should be collected 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. Pollen containers should be kept out of the sun to prevent 'sweating' and clumping of pellets, and to minimise microbiological growth.

9.5.1.3 Pollen must not be contaminated with rodent droppings and pests such as cockroaches and ants.

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, or gear is being contaminated during winter storage.

9.5.1.4 The presence in pollen of dead bees, wax, insect parts, wood, dust and other foreign matter in pollen must be minimised.

9.5.2 Freezing

9.5.2.1 Fresh pollen must be placed in a freezer without unnessary delay especially if the pollen is wet.

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

9.5.2.2 Contamination of the pollen must be prevented during freezing. Pollen must be properly packed and identified.

9.5.2.3 The freezer must have the capability to quickly freeze pollen to the required temperature.

9.5.2.4 The pollen must be loaded in the freezer in such a manner that allows effective freezing of the product.

9.5.3 Drying

9.5.3.1 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.

9.5.3.2 Pollen must be dried to a final moisture content sufficient for the preservation of the product considering its intended packaging and storage conditions.

Pollen is generally dried to < 8% moisture content.

9.5.4 Cleaning

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 debris.

A simple birdseed cleaning unit which uses a vacuum cleaner for the air supply may be suitable for cleaning small quantities of pollen. 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.

9.5.5 Storage

Pollen intended for human consumption should be stored in a deep freeze or as dried pellets in air tight containers at room temperature.

9.5.6 Labelling

The label on a package of pollen must meet the general labelling requirements under the Animal Products Act 1999 and the Food Standards Code. Food Standard 1.2.3 requires the label on a package of pollen to include an advisory statement to the effect that the product contains bee pollen which can cause severe allergic reactions.

9.6 Traceability and inventory control

9.6.1 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:

- back to the supplier and the apiaries that the bee product was sourced from; and

- to the next person or company that the product is transferred to for further processing, packing, or storage; distributed to; or sold to.

9.6.2 All outgoing products must be clearly identified and accompanied by appropriate documentation.

Refer to the Bee Products Official Assurances Guide for the documentation requirements for bee products for export.

9.6.3 Inventories must be maintained for all raw materials (e.g. incoming honey, pollen) and finished products, including any non-compliant materials and products.

9.7 Monitoring

Compliance to documented procedures must be regularly checked by the responsible person.

9.8 Records

Records containing the following information must be kept:

- *Apiarist and Beekeeper Statements* (Harvest Declarations) or equivalent records
- records for identifying products and establishing traceability
- inventories
- observations from monitoring and any corrective action taken (including restoration of control, product disposition and prevention of recurrence).

Records may be kept in a daily diary, logbook, record form or checklist. Refer to Section 10 for record keeping requirements.

10 Document Control and Record Keeping

10.1 Purpose and scope

To ensure that all RMP documents, including records, are managed under a document control system that meets the requirements of the Animal Products Act 1999.

10.2 Mandatory requirements

10.2.1 RMP Spec 16 (1)

Every document or part of a document that forms part of a risk management programme 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; and

d. available when required to any person with responsibilities under the programme.

10.2.2 RMP Spec 16 (2)

The operator must document the procedures for effective document control of the documents that form the risk management programme including how:

a. significant and minor amendments are made to the risk management programme so that the programme is current and reflects the actual operation;

b. the amendments, or the nature of the amendments to the programme are identified or described; and

c. documents are authorised prior to issue and use; and

d. all amended parts of the risk management programme are replaced with the current versions at all distribution points without unnecessary delay after authorisation and, where necessary, registration in accordance with section 25 of the Act.

10.2.3 **RMP Spec 16(3)**

The operator must retain for four years, one copy of all obsolete documents from a registered risk management programme in a manner that protects the documents from damage, deterioration or loss, and prevents confusion with current documents.

10.2.4 **RMP Spec 16(4)**

The operator must ensure that the registered risk management programme and all reference material relating to the risk management programme, and any archived documents are readily accessible, or can be retrieved and made available within two working days of any request to:

a. accredited persons (now called recognised persons); and

b. animal product officers; and

c. the Director-General; and

d. persons authorised by the Director-General.

10.2.5 **RMP Spec 17 (1)**

The operator must include record keeping procedures in the risk management programme to ensure that all records necessary to demonstrate compliance with the documented programme are legible, stored for four years in a manner which protects the records from damage, deterioration or loss and can be retrieved and made available to persons defined in clause 17(3) within two working days of any request.

10.2.6 **RMP Spec 17(2)**

Records relating to the risk management programme's monitoring, corrective action and operator verification activities must include:

a. the date and time of the activity;

b. a description of the results of the activity; and

c. a means to identify the person(s) who performed the activity.

10.2.7 **RMP Spec 17(3)**

The operator must make all records relevant to the risk management programme available to the following persons as required:

a. accredited persons (now called recognised persons);

b. animal product officers;

c. the Director-General; and

d. persons authorised by the Director-General.

10.2.8 **HC Spec 34 (3)**

An inventory control programme must be documented for animal material and product and records maintained.

10.3 Procedures

10.3.1 **Record keeping**

10.3.1.1 All relevant GMP and processing records must be kept, including inventories of raw materials and finished products.

10.3.1.2 All relevant electronic records must be backed up and protected from corruption, damage or loss.

10.3.1.3 Records must include the date and the signature of the responsible personnel. In the case of electronic records compiled by personnel, the person entering the data must be identified according to systems developed for the protection of electronic records.

10.3.2 **Inventories**

10.3.2.1 Inventories must be maintained for all raw materials (e.g. incoming honey) and finished products.

10.3.2.2 Non-complying products and the reasons for non-compliance must be clearly identified in the inventory.

10.3.2.3 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:

- back to the supplier and the apiaries that the bee product was sourced from; and
- to the next person or company that the product is transferred to for further processing, packing, or storage; distributed to; or sold to.

10.4 Records

All records must be kept by the operator including:

- GMP compliance records
- processing records
- inventories

11 Recall

11.1 Purpose and scope

To ensure a system is in place for the recall of products that are not fit for intended purpose from distribution or sale.

11.2 Mandatory requirements

11.2.1 RMP Spec 12 (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 a recall procedure, including:

- the criteria for deciding when a recall will be initiated; and
- how retrieval and disposition of the relevant bee product will be managed.

11.2.2 RMP Spec 12(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:

- the Director-General; and
- the accredited risk management programme verifier or recognised risk management programme verifying agency.

11.3 Procedures

For recall procedures, refer to "*Recall Guidance Material*" available from the NZFSA website.

12 Operator Verification and Other Operational Requirements

12.1 Purpose and scope

To verify compliance to documented procedures and to confirm the effectiveness of the RMP by ensuring that operator verification, including internal audits, are undertaken at the required frequencies.

To ensure that other operational requirements are met by the operator.

12.2 Mandatory requirements

12.2.1 **RMP Spec 14**

The operator must document an operator verification system including:

a. the activities to be performed, and their frequency;

b. any actions to be taken when all or part of the risk management programme is not effective; and

c. any recording and reporting requirements.

12.2.2 **RMP Spec 25**

The operator 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 risk management programme.

12.2.3 **RMP Spec 26**

The operator 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 risk management programme without unnecessary delay.

12.2.4 **RMP Spec 27**

The operator must document procedures for notifying the recognised risk management programme verifying agency in writing, without unnecessary delay, of the following issues relating to the operation of the risk management programme:

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 risk management programme as provided in section 25 of the Act:

c. where the risk management programme is considered to be no longer effective:

d. where the premises are not or no longer suitable for their use:

e. where anything within the physical boundaries of the risk management programme is used for additional purposes or by other operators and the risk management programme has not adequately considered relevant hazards or other risk factors.

12.2.5 **RMP Spec 28 (1)**

The following activities that result in changes to the risk management programme require registration as an amendment in accordance with section 25 of the Act except where they are done on a trial basis and the affected bee product is not traded:

a. making major alterations to the processing facilities or equipment:

b. relocating processing operations to a new physical address (except where this is already permitted for mobile premises and vessels):

c. processing animal material or animal product that is not covered by the risk management programme, 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 risk management programme:

d. setting up a new process or process modification that is not covered by the risk management programme, 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 risk management programme:

e. making any other changes that introduce new risk factors, or adversely impact on existing risk factors:

f. merging two or more registered risk management programmes:

g. splitting a registered risk management programme into two or more risk management programmes:

h. adding a business to a multi-business risk management programme 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.

12.2.6 **RMP Spec 28 (2)**

The operator must, when making an amendment, consider whether consequential amendments to other components of the risk management programme are necessary.

12.3 Procedures

12.3.1 **Scope and frequency of internal audit**

12.3.1.1 Internal audits must be undertaken by the person responsible at an appropriate frequency to ensure compliance with the documented RMP, including GMP and process control procedures, and to identify and correct any problems.

It is recommended that an internal audit is done at least once every three months. This means that extractors who operate only during the honey flow season (3-4 months of the year) will only need to do an internal audit once a year.

12.3.1.2 A review of the RMP must be undertaken at least annually and when:

- significant changes in the product, process or premises are made; or
- the RMP is not working effectively.

12.3.2 **Audit procedures**

12.3.2.1 Observations made during the internal audit and corrective actions taken must be recorded.

Internal audits should consist of a review of records, reality checks, and confirmation that deficiencies or non-compliances identified from the last audit have been rectified.

Records should be reviewed for:

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

Reality checks should include observation of:

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

All deficiencies found at previous audits should be followed up.

12.3.2.2 When ongoing or recurring non-compliances occur, the following actions must be taken:

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 GMP programme and make necessary changes.

Significant amendments to the RMP must be evaluated and registered.

12.3.3 Product testing

It is recommended that any microbiological testing should be done by an IANZ (International Accreditation New Zealand) or LAS (Laboratory Accreditation Scheme) accredited laboratory.

12.3.3.1 Moisture content measurements must be performed by a suitably skilled person using documented methodologies (including calibration procedures) and/or calibrated equipment.

12.3.3.2 All results of product tests must be recorded.

12.3.4 Notification procedures

12.3.4.1 The day-to-day manager of the RMP must contact the NZFSA (Attention Programme Manager, Production and Processing, Approvals and ACVM Standards) without delay when it is necessary to notify the Director-General for reasons specified in RMP Spec 25 and 26 (refer to sections 12.2.2 and 12.2.3 of this document).

12.3.4.2 The day-to-day manager of the RMP must notify the recognised risk management programme verifying agency in writing (e.g. by email or letter) as required by and for reasons specified in RMP Spec 27 (refer to section 12.2.4 of this document).

12.4 Records

Records giving the following information must be kept by the operator:

- internal audit reports
- other information or evidence relating to operator verification activities (e.g. test results).
- copies of any communication sent to the NZFSA or the recognised RMP verifying agency.
- any corrective action taken (including restoration of control, product disposition and prevention of recurrence).

13 Glossary of Terms

Act means the Animal Products Act 1999.

Amenities includes toilets, wash rooms, locker rooms, change rooms, lunch/smoke rooms, and cafeterias.

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.

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

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

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.

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.

Label includes any wording, tag, brand, symbol, picture, or other descriptive matter written, printed, stenciled, 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.

NZFSA means the New Zealand Food Safety Authority which is a semi-autonomous agency under the Ministry of Agriculture and Forestry.

Operator means an operator of a premises or place who operates an animal product business that is subject to a risk management programme.

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

a. compliance of the risk management programme to the legislative requirements; and

b. compliance of the operation to the risk management programme as written; and

c. applicability of the risk management programme 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 animal material or animal product; and

b. includes rigid materials such as cartons and containers where animal material or animal product is filled directly into the carton or container; and

c. includes any other material contained with, in, or attached to, the animal material or animal product (such as labels, satay sticks, 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 paragraph (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; or

c. meets the requirements of the current “Meat Division Circulars 86/3/2 Surveillance of Potable Water in Meat and Game Export Premises" and “86/3/5 Amendment to MDC 86/3/2 86/14/5 on Surveillance of Potable Water in Meat and Game Export Premises” issued by the Ministry.

Protective clothing means special garments intended to preclude the contamination of animal material or animal product, that are used as outer wear by persons; and includes head coverings and footwear.

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.

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

b. in relation to any equipment or accessway in any processing area, means that the equipment or accessway is designed, constructed and located so that it —

   i. is easily accessible for maintenance, cleaning, operation, checking, and inspection; and

   ii. minimises the contact of contaminants with any animal material (other than live mammals or live birds), or animal product or other equipment; and

   iii. precludes 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;

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.

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.

Appendix 2:

Schedule 1: Specification for Operator Supply of Potable Water

Schedule 1: Specification for operator supply of potable water

Part 2: Checklist - Assessment of Water Supply Status

Application: This checklist must be completed by any operator supplying potable water to the premises or place solely for their own use during processing of animal material or animal product, in order to determine whether additional water treatment is necessary prior to use of the water.

Part 1: SUPPLIER DETAILS		
Name of Operator:	Type of Operation:	Premises Address:
Postal Address:	Phone Number: Fax Number: Email Address:	

Part 2: WATER SOURCE

Water Source – Indicate all sources intended to be used.

Secure groundwater (not under the influence of surface water) – **Go to Part 3** [ ]

Surface water (e.g. spring, well, river, stream, dam, lake, reservoir) – **Go to Part 4** [ ]

Roof water – **Go to Part 5** [ ]

If there is more than one source of water then the appropriate checklist(s) will need to be filled out for each source (including multiple secure groundwater/surface water sources) of water used by the operator for the purposes of the risk management programme.

Part 3: SECURE GROUNDWATER (i.e. Bore)

Depth of bore:_____metres

		Yes	No
1.	**Source**		
(i)	Is surface water able to drain into the bore, due to the bore-head being inadequately sealed?	[ ]	[ ]
(ii)	Is the bore in an area prone to ponding and flooding?	[ ]	[ ]
(iii)	Do farmed animals have access to the bore-head?	[ ]	[ ]
(iv)	Is there any septic tank/long drop toilet outlet within 100 meters from the bore-head?	[ ]	[ ]
(v)	Do any of the following water characteristics change after rain? colour temperature turbidity pH *E. coli* or faecal coliform count	[ ]	[ ]

		Yes	No
2.	**Storage**		
(i)	Are holding tanks used?	[ ]	[ ]
(ii)	If Yes to (i):		
	(a) are these tanks capable of holding more than or less than 1 day's supply of water? (please circle answer)	More	Less
	(b) Is the outlet of the holding tank above or level with the base of the tank? (please circle answer)	Above	Level
(iii)	Is the water prone to stagnation that results in deterioration of water quality?	[ ]	[ ]
(iv)	Are tanks unprotected from animal access?	[ ]	[ ]

Analysis

Section 1 (source)

- If the answer to all questions in section 1 is NO then the water source may be considered to be secure ground water provided the bore is of an adequate depth and the soil types are not porous. No additional treatment need be applied, (subject to section 2)

- If the answer to any of the questions is YES, or the bore is of an inadequate depth or the soil types are porous, then the water source must not be considered to be secure ground water. **Go to Part 4**

Section 2 (storage)

- If the water source is secure and the answer to all the questions in Section 2 is NO, and if the answer to (ii)(a) is MORE and to (ii)(b) is ABOVE, then the water may be considered satisfactory.

- If the holding tank capacity is such that water could settle for at least 24 hours before use and the water outlet from the tank is above the base of the tank so that debris can settle, then the facility may be considered satisfactory. If the facility is not considered satisfactory then a corrective action plan, which considers additional water treatment, must be designed and included in the water management plan. If the water is prone to stagnation and unprotected from animal access, a corrective action plan must be designed and included in the water management plan.

Part 4: SURFACE WATER (e.g. Spring, Shallow Well, Dam, Lake, Reservoir, Stream)

1. Source

(i) Describe the water source e.g. spring, well, stream, river, dam, reservoir etc. including name where appropriate.

_____

(ii) Describe the soil type in the area of the water source e.g. coarse shingle, fine silt, clay etc.

_____

		Yes	**No**
(iii)	Has a microbiological test been done on this source within the last month?	[ ]	[ ]
(iv)	Does the water satisfy the criteria in Table 1: Quality of Potable Water (except for criteria relating to chlorine and pH)?	[ ]	[ ]

Name the laboratory which did the test: _____

2. Criteria

(i) Are any of the following within 50 metres of the water source?

	Yes	No		Yes	No
Offal pit / soak hole	[ ]	[ ]	Septic tank / long-drop toilet	[ ]	[ ]
Animal effluent	[ ]	[ ]	Stock yards	[ ]	[ ]
Sumps	[ ]	[ ]	Land disposal site/refuse pit	[ ]	[ ]
Feed pad	[ ]	[ ]	Silage stack	[ ]	[ ]
Fuel tanks	[ ]	[ ]	Chemical preparation/storage	[ ]	[ ]
Timber treatment facility	[ ]	[ ]	Pesticide residues	[ ]	[ ]
Abandoned or decommissioned wells	[ ]	[ ]			

(ii) Are there any known water quality problems (e.g. bacterial contamination, turbidity, corrosiveness, sediment, colour, smell, taste)?

(If yes, specify)

_____

(iii) Do any of the following factors present risks to the quality of the water?

	Yes	No
Spray drift	[ ]	[ ]
Nearby factories	[ ]	[ ]
Mining operations	[ ]	[ ]
Run-off from urban or sealed surfaces	[ ]	[ ]
Material from effluent ponds or surface impoundments (waste or ponds or lagoons) (either treated discharge or leakage)	[ ]	[ ]
Contaminants washed into source during irrigation	[ ]	[ ]
Geothermal contaminants (e.g. arsenic, boron, lithium etc)	[ ]	[ ]
Saline water	[ ]	[ ]

(If yes, specify what activity and how far away)

_____
_____
_____

3.	**Intake and storage**		
		Yes	**No**
(i)	Is any visible matter drawn up in the intake from the water source?	[ ]	[ ]
(ii)	Are holding tanks used?	[ ]	[ ]
(iii)	If Yes to (ii):		
	(a) are these tanks capable of holding more than or less than 1 days supply of water? (please circle answer)	More	Less
	(b) Is the outlet of the holding tank above or level with the base of the tank? (please circle answer)	Above	Level
		Yes	**No**
(iv)	Is the water prone to stagnation that results in deterioration of water quality?	[ ]	[ ]
(v)	Are tanks unprotected from animal access?	[ ]	[ ]

4.	**Additional criteria for flowing water only i.e. rivers, streams, springs etc.**		
		Yes	**No**
(i)	Is there a plan for when the river/stream etc. floods?	[ ]	[ ]
(ii)	Is effluent discharged less than 2 km upstream of the water intake?	[ ]	[ ]
	If Yes, state source: _____	[ ]	[ ]
(iii)	If yes, is effluent discharged less than 4 hours before water is taken from the source?	[ ]	[ ]
(iv)	Do farmed animals have access to within 10m of the water intake?	[ ]	[ ]
(v)	Is industrial or urban stormwater discharged to the source water upstream of the intake?	[ ]	[ ]
5.	**Additional criteria for enclosed surface waters only i.e. dams, lakes, reservoirs etc.**	**Yes**	**No**
(i)	Is there a plan to deal with flooding?	[ ]	[ ]
(ii)	Is the water accessible to farmed animals?	[ ]	[ ]
(iii)	Is effluent discharged into the dam/lake/reservoir?	[ ]	[ ]
(iv)	Is industrial or urban stormwater discharged into the dam/lake/reservoir?	[ ]	[ ]

Analysis

- If the answers to the questions in section 1 are YES and to all questions in sections 2, 3, 4 & 5 (other than 4(i) and 5(i)) are NO, then the water may be considered satisfactory. If the answer to section 3(iii)(a) is MORE and to 3(iii)(b) is ABOVE, then the water may be considered satisfactory.
- If the answer to any question in section 1 is NO then a microbiological test must be obtained and a corrective action plan must be designed and included in the water management plan to ensure the water meets the criteria in Table 1: Quality of Potable Water.
- If the answer to any question in section 2 is YES, then appropriate action must be taken to ensure potential hazards to human health are minimised and, where necessary, a corrective action plan, which considers additional water treatment, must be designed and included in the water management plan.
- In section 3, if visible debris is drawn up in the water intake at any time and if the holding tank capacity is such that water could settle for at least 24 hours before use and the water outlet from the tank is above the base of the tank so that debris can settle, then the facility may be considered satisfactory. If the facility is not considered satisfactory then a corrective action plan which considers additional water treatment, must be designed and included in the water management plan. If the water is prone to stagnation and is not protected from animal access, a corrective action plan must be designed and included in the water management plan.
- If the answer to any question in sections 4 or 5 is YES (other than 4(i) and 5 (i), then appropriate action must be taken to ensure potential hazards to human health are minimised and, where necessary, a corrective action plan is designed and included in the water management plan.

Part 5: ROOF WATER

1. Roofing materials

	Yes	**No**
Galvanised iron?	[ ]	[ ]
Lead materials (lead nails, flashings, paint)?	[ ]	[ ]
Asbestos materials?	[ ]	[ ]
Paint or other surface treatment in poor condition?	[ ]	[ ]

2. Roof maintenance

Gutterings are cleaned out at a frequency of (tick one):

Once a year or less	[ ]
More than once a year but less than once per month	[ ]
Once a month or more frequently	[ ]

3.	**Roof environment**	**Yes**	**No**
	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?	[ ]	[ ]
4.	**Atmospheric fall out**	**Yes**	**No**
	Are there industrial (including agricultural chemicals) or natural sources of atmospheric fall out?	[ ]	[ ]
	Is there any ash/soot deposit on the roof?	[ ]	[ ]

5. Intake and Storage

		Yes	**No**
(i)	Are holding tanks used?	[ ]	[ ]
(ii)	If Yes to (i):,		
	(a) are these tanks capable of holding more than or less than 1 day's supply of water? (please circle answer)	More	Less
	(b) Is the outlet of the holding tank above or level with the base of the tank? (please circle answer)	Above	Level
		Yes	**No**
(iii)	Is the water prone to stagnation that results in deterioration of water quality?	[ ]	[ ]
(iv)	Are tanks unprotected from animal access?	[ ]	[ ]

Analysis

- If the answer to all questions in sections 1, 3, 4 and 5 are NO and the gutterings are cleaned once a month or more frequently, then the water may be deemed to be satisfactory. If the answer to section 5 (ii)(a) is MORE and to section 5 (ii)(b) is ABOVE, then the water may be considered satisfactory.
- If the answers to any questions in sections 1, 3, 4 and 5 are YES then a corrective action plan must be designed and included in the water management plan.
- If the gutterings are cleaned out less frequently than once a month then the water management plan must validate the frequency at which gutterings are cleaned.
- In section 5, if the holding tank capacity is such that water could settle for at least 24 hours before use and the water outlet from the tank is above the base of the tank so that debris can settle, then the facility may be considered satisfactory. If the facility is not considered satisfactory then a corrective action plan must be designed and included in the water management plan. If the water is prone to stagnation and unprotected from animal access, a corrective action plan must be designed and included in the water management plan.

Code of Practice:

Processing of Bee Products

Part 3: HACCP Application

Prelims

Amendment 0

July 2005

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Disclaimer

IMPORTANT DISCLAIMER

Every effort has been made to ensure the information in this report is accurate.

NZFSA does not accept any responsibility or liability whatsoever for any error of fact, omission, interpretation or opinion that may be present, however it may have occurred.

Website

A copy of this document can be found at: http://www.nzfsa.govt.nz/animalproducts/index.htm

Review of Code of Practice

This code of practice will be reviewed, as necessary, by the New Zealand Food Safety Authority. Suggestions for alterations, deletions or additions to this code of practice, should be sent, together with reasons for the change, any relevant data and contact details of the person making the suggestion, to:

Assistant Director (Production and Processing)

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New Zealand Food Safety Authority

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Amendment Record

It is important that this publication is kept up-to-date by the prompt incorporation of amendments.

To update this publication when you receive an amendment, remove the appropriate outdated pages, destroy them, and replace them with the pages from the new issue. Complete instructions will be given on the covering letter accompanying the amendment. File the covering letter at the back of the publication and sign off and date this page.

If you have any queries, please ask your local verifier.

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1 Introduction

Amendment 0

July 2005

1.1 Purpose of this document

Hazard Analysis and Critical Control Point (HACCP) is a systematic and science-based control system for assuring food safety. Food safety is achieved by assessing hazards, developing controls, and focusing on preventative measures.

Operators must apply the HACCP principles when developing their risk management programmes (RMP). To assist operators meet this requirement, the NZFSA, in consultation with an industry working group, has developed *Part 3: HACCP Application of the Code of Practice for the Processing of Bee Products*. This document shows how the HACCP principles are applied to a generic process covering the extraction, processing and packing of honey; and the processing of dried pollen.

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 of practice (COP) can be copied into the RMP, or they can be incorporated into the RMP by reference (i.e. by using the RMP template given in Part 5). 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.

1.2 Hazard

A hazard is a biological, chemical or physical agent in, or condition of, food with the potential to cause an adverse health effect.

- Biological hazards include pathogenic microorganisms (e.g. *Salmonella* spp., *Clostridium* spp, *Bacillus* spp), parasites and viruses. 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.

- 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.
- Physical hazards are objects that may cause illness or injury. Examples of these hazards are glass, metal fragments, and plastic.

Hazards may occur in the product as a result of:

- an input (e.g. raw material, ingredients, packaging);
- the process itself; or
- direct or indirect contamination from "other sources" (e.g. personnel, water, pests, wastes, equipment, internal and external environs).

1.3 Good manufacturing practice (GMP)

GMP is covered under Part 2 of the code of practice. Supporting systems covering GMP must be developed and documented prior to HACCP application. The HACCP approach used in this COP is based on the expectation that these systems are effectively being implemented.

1.4 HACCP principles

The HACCP principles, as defined by Codex are:

1. Conduct a hazard analysis;
2. Determine the Critical Control Points (CCP);
3. Establish critical limits;
4. Establish a system to monitor control of the CCP;
5. Establish the corrective action to be taken when monitoring indicates that a particular CCP is not under control;
6. Establish procedures for verification to confirm that the HACCP system is working effectively;

7. Establish documentation concerning all procedures and records appropriate to these principles and their application.

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 GMP (supporting systems).

The application of these principles is discussed in detail in the Risk Management Programme Manual.

1.5 HACCP application for products and processes not covered by the code of practice

When the HACCP application given in this document does not adequately cover an operator's product or process, the operator will need to carry out their own HACCP application. The HACCP approach and format shown should be used by the operator as a guide or pattern for their own application.

The HACCP application must be documented, and supported using information such as historical company records, technical publications or information provided by the NZFSA. The person or people involved in this activity must have the appropriate knowledge and skills regarding HACCP, the product and the process.

Prior to the application of HACCP principles to the process, all relevant supporting systems must be documented.

2 HACCP Application for the Extraction, Processing and Packing of Honey

Amendment 0

July 2005

2.1 Scope

Table 1: 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, filtering, 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.

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

2.2 Product description

Table 2: 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 • Ingredient for preparation of other foods	• Further processing and packing to liquid/creamed honey or other honey products • Ingredient for preparation other foods	• Further processing into products for pharmaceutical use and manufacture of cosmetics • Further processing into comb foundation
Regulatory limits [3]	None	None	None	None
Other regulatory requirements specific to honey	Food Standards Code 2.8.2 - • Reducing sugars ≥ 60% • Moisture ≤ 21%	Food Standards Code 2.8.2 - • Reducing sugars ≥ 60% • Moisture ≤ 21%	Food Standards Code 2.8.2 - • Reducing sugars ≥ 60% • Moisture ≤ 21%	N/A

Product	Liquid or creamed honey	Comb honey	Bulk honey	Wax
	AP (Residue Specification) Notice 2004 - Specified chemical substances in honey ≤ maximum permissible levels [4]	AP (Residue Specification) Notice 2004 - Specified chemical substances in honey ≤ maximum permissible levels [4]	AP (Residue Specification) Notice 2004 - Specified chemical substances in honey ≤ maximum permissible levels [4]	N/A
Labelling	Labelling of retail packs as specified in the Food Standards Code. Labelling of transportation outers as specified in HC Spec 32.	Labelling of retail packs as specified in the Food Standards Code. Labelling of transportation outers as specified in HC Spec 32.	Labelling of transportation outers as specified in HC Spec 32.	Labelling of transportation outers as specified in HC Spec 32.

1. It is common practice in the New Zealand honey industry to downgrade honey that do 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 the regulator under the Animal Products Act 1999.

4. Every consignment of honey must be provided with an *Apiarist and Beekeeper Statement* as (i.e. Harvest declarations) as required by Human Consumption Specification 108. This statement confirms the controls applied by the beekeeper that are intended to minimise the risks to human health from drugs (e.g. antibiotic), agricultural chemicals (e.g. pesticides), and plant toxins, including phytotoxins of the native plant tutu (*Coriaria* spp).

2.3 Process description

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.

Table 3a: Process flow diagram for the extraction of honey

Inputs [1]	Process steps	Outputs [2]
Honey supers →	1. Receiving	
	↓	
	2. Holding in hot room [3]/ storeroom	
	↓	
	3. Deboxing and inspection	→ Rejects (e.g. infested combs, brood comb, dirty combs)
	↓	
	4. Uncapping	→ Cappings for honey separation
	↓	
	5. Pricking/loosening [4]	
	↓	
	6. Extraction	→ Empty frames
	↓	
Honey separated from cappings →	7. Transfer of honey through sump	→ Wax & other debris to waste
	↓	
	8. Heating using heat exchanger	
	↓	
	9. Spinning	→ Wax & other debris to waste
	↓	
	10. Pumping into tanks and straining	→ Foreign objects (e.g. insect parts, wax) to waste
	↓	
	11. Holding in tanks	
	↓	
Drums →	12. Filling of honey into drums & weighing	
	↓	
	13. Labelling/marking of drums	
	↓	
	14. Storage	
	↓	
	15. Dispatch	→ Bulk 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 be extracted more successfully when a pricker/loosener is used to loosen the contents of each honey cell before extraction.

Table 3b: Process flow diagram for processing of liquid and creamed honey

Inputs	Process steps	Outputs
Bulk honey from outside source →	1. Receiving	
	↓	
Bulk honey from own storage →	2. Cleaning of drum external surface	
	↓	
	3. Heating of drums	
	↓	
	4. Pouring of honey into vats/tanks & straining	→ Empty drums
	↓	
	5. Heating using heat exchanger	
	↓	
	6. Filtering	
	↓	
Seed honey →	7. Creaming	
	↓	
	8. Holding liquid or creamed honey in tanks	
	↓	
Containers (e.g. glass jars, plastic pottles, cartons) and labels →	9. Packing and labelling	
	↓	
	10. Storage	
	↓	
	11. Dispatch	→ Packed liquid or creamed honey

Table 3c: Process flow diagram for processing of comb honey

Inputs	Process steps	Outputs
Honey supers →	1. Receiving	
	↓	
	2. Freezing [1] /storage	
	↓	
	3. Transfer to cutting room	
	↓	
	4. Deboxing & inspection [2]	→ Rejects (e.g. dirty combs, dark wax, rusty wires)
	↓	
	5. Removal of wires	→ Wires to waste
	↓	
	6. Inspection of combs	→ Rejects (e.g. combs with foreign matter, dirty, with remaining wire)
	↓	
	7. Cutting of combs	→ Frames, cutting scraps
	↓	
	8. Inspection of cut combs	→ Rejects (e.g. poorly cut, other quality defects)
	↓	
Packaging (e.g. plastic containers, lids, carton box) →	9. Packing and labelling [3]	
	↓	
	10. Storage/freezing [1]	
	↓	
	11. Dispatch	→ Packed 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.

2.4 Hazard analysis and CCP determination

2.4.1 Identification of hazards from inputs

Hazards associated with each input are identified, considering any supplier agreements and requirements given in the COP.

Table 4a: Hazard identification

Inputs	Description/specification	Biological hazard (B)	Chemical hazard (C)	Physical hazard (P)
Honey supers [1]	Accompanied by an *Apiarist and Beekeeper Statement* (i.e. Harvest declaration)	Bacterial spores (e.g. *Bacillus* spp., *Clostridium* spp.) [2]	Plant toxins (e.g. tutin) [3] Chemical residues (e.g. antibiotics, 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. *Bacillus* spp., *Clostridium* spp.)	Plant toxins (e.g. tutin) [3] Chemical residues (e.g. antibiotics, pesticides) [4]	None
Drums	Meets the drum requirements given in Section 8 of Part 2 of the COP	None	None	None
Plastic containers	Suitable for use as food contact material as specified in Section 8 of Part 2 of the COP.	None	None	Plastic pieces
Glass jars	Suitable for use as food contact material as specified in Section 8 of Part 2 of the COP.	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. There is no conclusive evidence that *Clostridium botulinum* spores are a hazard in New

Zealand 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 (*Coriaria arborea*) bushes. Certain beekeeper controls and the use of the *Apiarist and Beekeeper Statement* (i.e. 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 (3 km radius) 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 antibiotics used for the treatment of bees, pesticides for controlling mites and insect infestations, and fungicides. The control of chemical residues involves effective beekeeping practices and the monitoring of certain chemical residues. Results of residue testing on New Zealand honey in 2000 - 2003 indicate that residue levels in honey are generally in compliance with legal requirements.

2.4.2 Process step hazard analysis and CCP determination

Table 4b: 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. *Bacillus* spp, *Clostridium* spp) are likely to occur.	No	No	
		C – Tutin toxin	Reported incidence of tutin in NZ honey.	Yes – Supplier statements confirming beekeeper controls	No	
		C – Chemical residues	Residues may occur in honey. [1]	Yes – Supplier statements 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 – GMP: 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 – GMP: hygienic practices; and maintenance of uncapping knife will minimise contamination	No	
5. Pricking /loosening	Uncapped combs	B – Bacterial pathogens	Micro contamination from the pricker/loosener can occur.	Yes – GMP: 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 combs	B – Bacterial pathogens	Micro contamination from the comb and frames is likely to occur.	Yes – GMP: 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 – GMP: maintenance of frames will minimise the hazards	No	
7. Sump	Extracted honey	B – Bacterial pathogens	Micro contamination from the sump and surroundings can occur.	Yes – GMP: 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 – GMP: 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		
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 – GMP: 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 – GMP: any remaining physical hazards are removed by	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.**
				the strainer/filter [2]		
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 – GMP: compliance with drum requirements; and cleaning of drums will minimise contamination	No	
		C – Chemical residues	Chemical residues from reused drums can occur.	Yes – GMP: compliance with drum requirements	No	
13. Labelling/ marking of drums	Bulk honey	B – Bacterial pathogens	Carried over from previous step	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 [3]	No		

1. The control of chemical residues involves effective beekeeping practices and the monitoring of chemical residues. Results of residue testing on New Zealand honey in 2000-2003 indicate that residue levels in honey are generally in compliance with legal requirements. The level of any chemical residue is not going to increase during honey processing, thus, they have not been considered further in succeeding steps.

2. If the operation has no steps for removing foreign matter (e.g. spinner or other filtering 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.

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) are likely to 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.

Table 4c: 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. *B. cereus, Clostridium* spp) are likely to occur in honey.	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 – GMP: 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 – GMP: hygienic practices and cleaning of equipment will minimise contamination	No	
	Seed honey	B – Bacterial pathogens	Bacterial spores (e.g. *B. cereus, Clostridium* spp) are likely to occur in honey.	No		
8. Holding in tanks	Liquid or creamed honey	B – Bacterial pathogens	Micro contamination from equipment can occur.	Yes – GMP: hygienic practices and cleaning of tanks will minimise contamination	No	
9. Packing and labelling	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.**
	Glass jars & lids	Glass	Pieces of broken glass are occasionally found in glass consignments; jars can also break during handling and processing.	Yes – GMP: 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 – GMP: 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.[2]	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 filtering).

Bulk honey that has not undergone effective spinning and/or filtering 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).

2. 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) are likely to 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.

Table 4d: 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. *B. cereus, Clostridium* spp) are likely to occur in honey supers.	No	No	
		C – Tutin toxin	Reported incidence of tutin in NZ honey. [1]	Yes – Supplier statements confirming beekeeper controls	No	
		C – Chemical residues	Residues can occur in honey [2]	Yes – Supplier statements 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 – GMP: 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 – GMP: correct techniques will minimise occurrence of broken wires		
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 – GMP: inspection using a light box and rejection of affected combs		
7. Cutting of combs	Combs	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.**
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 – GMP: 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		

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. Generally, comb honey processors impose stricter controls for sourcing of honey supers for comb honey production to minimise the risk to human healthfrom tutin.

2. The control of chemical residues involves effective beekeeping practices and the monitoring of chemical residues. Results of residue testing on New Zealand honey in 2000-2003 indicate that residue levels in honey are generally in compliance with legal requirements. The level of any chemical residue present is not going to increase during honey processing, thus, they have not been considered further in succeeding steps.

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) are likely to 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.

2.4.3 Outcome of CCP determination

No CCP was identified for the extraction, processing and packing of honey. The control of hazards at key steps is expected to be adequately addressed by GMP (i.e. complying with the procedures given in Part 2 of this COP).

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.

3 HACCP Application for the Processing of Dried Pollen

Amendment 0

July 2005

3.1 Scope

Table 1: 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

3.2 Product description

Table 2: 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 an *Apiarist and Beekeeper Statement* (i.e. Harvest declaration) and comply with the requirements of HC Spec 108 [2]
Labelling	Labelling of retail packs as specified in the Food Standards Code including an advisory statement as required by Standard 1.2.3. Labelling of transportation outers as specified in HC Spec 32.

1. Regulatory limits are limits that are essential to be met for food safety and are established by the regulator under the Animal Products Act 1999.

2. The *Apiarist and Beekeeper Statement* (i.e. Harvest declaration) confirms the controls applied by the beekeeper that are intended to minimise the risks to human health from drugs (e.g. antibiotic), agricultural chemicals (e.g. pesticides), and plant toxins, including phytotoxins of the native plant tutu (*Coriaria* spp).

3.3 Process description

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.

Table 3: Process flow diagram for the processing of dried pollen

Inputs [1]	Process steps	Outputs [2]
Fresh or frozen pollen →	1. Receiving	
	↓	
	2. Holding in freezer	
	↓	
	3. Drying	
	↓	
	4. Cleaning and sorting	→ Foreign matter to waste
	↓	
Packaging →	5. Bulk packing	
	↓	
	6. Storage in freezer	
	↓	
Packaging and labels →	7. Retail packing and labelling	
	↓	
	8. Dispatch	→ Packed 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.

3.4 Hazard analysis and CCP determination

3.4.1 Identification of hazards from inputs

Hazards associated with each input are identified, considering any supplier agreements and requirements given in the COP.

Table 4a: Hazard identification

Inputs	Description/specification	Biological hazard (B)	Chemical hazard (C)	Physical hazard (P)
Fresh or frozen pollen	Accompanied by an *Apiarist and Beekeeper Statement* (i.e. Harvest declaration) and complies with HC Spec 108.	Bacterial pathogens from rodent droppings, insect fragments and wastes, dusts 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 Section 8 of Part 2 of the COP.	None	None	Plastic pieces
Glass jars	Suitable for use as food contact material as specified in Section 8 of Part 2 of the COP.	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 *Apiarist and Beekeeper Statement* (i.e, Harvest Declaration) as required by the Human Consumption specification 108. This statement confirms the controls applied by the beekeeper that are intended to minimise the risks to human health from drugs (e.g. antibiotic), 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.

3.4.2 Process step hazard analysis and CCP determination

Table 4b: 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 – GMP: 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 – GMP: 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				
6. Storage in freezer	Dried pollen	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.**
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 *Apiarist and Beekeeper Statement* (i.e. Harvest Declaration) as required by the Human Consumption specification 108. 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 GMP 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.

3.4.3 Outcome of CCP determination

No CCP was identified for the drying of bee pollen. The control of hazards at key steps is expected to be adequately addressed by GMP (i.e. complying with the procedures given in Part 2 of this COP).

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.

Code of Practice:

Processing of Bee Products

Part 4: Identification and Control of Risk Factors Related to Wholesomeness and Labelling

Prelims

Amendment 0

July 2005

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New Zealand Standards Group

New Zealand Food Safety Authority

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Wellington

Telephone: 04 463 2500

Facsimile: 04 463 2643

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1 Introduction

Amendment 0

July 2005

1.1 Purpose of this document

The operator must identify in their risk management programme (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.

To assist operators meet this requirement, the NZFSA, in consultation with an industry working group, has developed this document. It shows the identification of risk factors related to wholesomeness and labelling for a generic process covering the extraction, processing and packing of honey; and the processing of dried pollen.

An operator whose products and processes are adequately covered by the risk factor identification in sections 2 and 3 of this document can use these sections for developing their RMP. These sections can be copied into the RMP, or they can be incorporated into the RMP by reference (i.e. by using the RMP templates given in Part 5). The operator may need to make some changes to ensure that the risk factor identification accurately reflects the products and processes covered by their RMP.

When the risk factor identification in sections 2 and 3 of this document does not adequately cover an operator's product or process, the operator will need to carry out their own risk factor identification. The approach and format shown should be used by the operator as a guide or pattern for their own application.

1.2 Wholesomeness

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).

1.3 False or misleading labelling

Animal products intended for the New Zealand market must meet all relevant legislative requirements related to labelling including:

- The Animal Product Regulations 2000, regulations 8 and 19;
- Part 7 of the current Animal Products (Specifications for Products For Human Consumption) Notice;
- Parts 1.1A and 1.2 of the Australia New Zealand Food Standards Code;
- Part 1 of the Food (Safety) Regulations 2002; and where applicable;
- Section 3 of Industry Standard 7: Byproducts.

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).

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.

Risk factors related to wholesomeness and labelling are discussed in detail in the Risk Management Programme Manual.

2 Identification and Control of Risks To Wholesomeness

Amendment 0

July 2005

Table 1: 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 • Filtering • 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 • Filtering

Table 2: 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

3 Identification and Control of Risks from False or Misleading Labelling

Amendment 0

July 2005

Table 3: 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 id or batch number	Incorrect label design	Procedures for ensuring correct label design and compliance to 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

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Part 5: RMP Templates

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1 Introduction

Amendment 0

July 2005

The Animal Products Amendment Act 2002 allows for a risk management programme (RMP) to be based on a code of practice (COP), a template, or a model if in the view of the Director-General it is valid and appropriate for businesses of that kind.

The RMP templates provided have been developed by the New Zealand Food Safety Authority (NZFSA), in consultation with an industry working group, to assist bee product processors develop their RMPs. They have been designed for use by operators involved in the extraction, processing, packing and storage of honey; and the processing of dried pollen.

Section 2 of this document explains the use and application of the RMP templates. Guidelines for completing the template are provided in section 3, and the template forms are provided in sections 5 and 6 of this document. The guidelines explain and give instructions on how to complete the template. These guidelines must be read while completing the template to ensure that the information required is fully understood. It is very important that operators provide complete and accurate information as the registered RMP will be a legally binding document that must be complied with, and will be verified by an external verifier.

The RMP templates are published as separate documents and are available as Word files so they can easily be used by operators.

Using the templates provided is one way of meeting the RMP requirements. 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 Risk Management Programme Manual for guidance.

2 Development of an RMP based on an RMP Template

2.1 Businesses whose products and processes are fully covered by the approved COP

2.1.1 Development

When the COP fully covers the scope of the operation of a business, the simplest approach for developing an RMP is to use the relevant RMP template provided in sections 4 and 5 of this document. The RMP template is a simple form that the operator completes by filling in the required information in the appropriate boxes.

The requirements for the documentation of GMP supporting systems and the application of HACCP principles in the RMP can be met by incorporating the relevant sections of the COP into the RMP by reference. This means that that the operator will only need to write very few procedures that are specific to their operation. The operator's RMP will, therefore, consist of the completed RMP template, the relevant sections of the COP that apply to their operation, and any of their own written procedures.

Confirmation by the operator that the RMP meets all the legal requirements for a valid RMP will simply involve signing a declaration in the RMP template.

2.1.2 Evaluation

An RMP that is fully based on an approved COP does **not** require an evaluation prior to registration since the NZFSA has already determined that the requirements and procedures set out in the COP are valid and will deliver the relevant regulatory requirements. Verification of the accuracy of the documented RMP and operator's compliance to the COP will be carried out at the initial verification by the contracted verifier.

2.2 Businesses whose products or processes are not fully covered by the approved COP, or those with significant variation from the COP

2.2.1 Development

Since the COP is limited in its scope in terms of the bee products, processes and procedures it covers, some businesses will need to tailor parts of the RMP template to meet their particular process variations. Some may also need to, or want to develop their own specific RMP.

Businesses whose products and processes are not fully covered by the COP, or who have decided to apply procedures or processing parameters that significantly differ from those given in the COP will need to write their own documentation for those parts of the RMP that are not covered or vary from the COP (e.g. HACCP application, GMP procedures). The RMP template may still be used but the operator will need to add their own information or documents for those parts not covered by the template or COP.

The operator must be able to demonstrate the effectiveness of any alternative process, procedures or parameter to consistently meet all relevant regulatory requirements and produce products that are fit for their intended purpose. 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 Chapter 4 of the Risk Management Programme Manual.

2.2.2 Evaluation

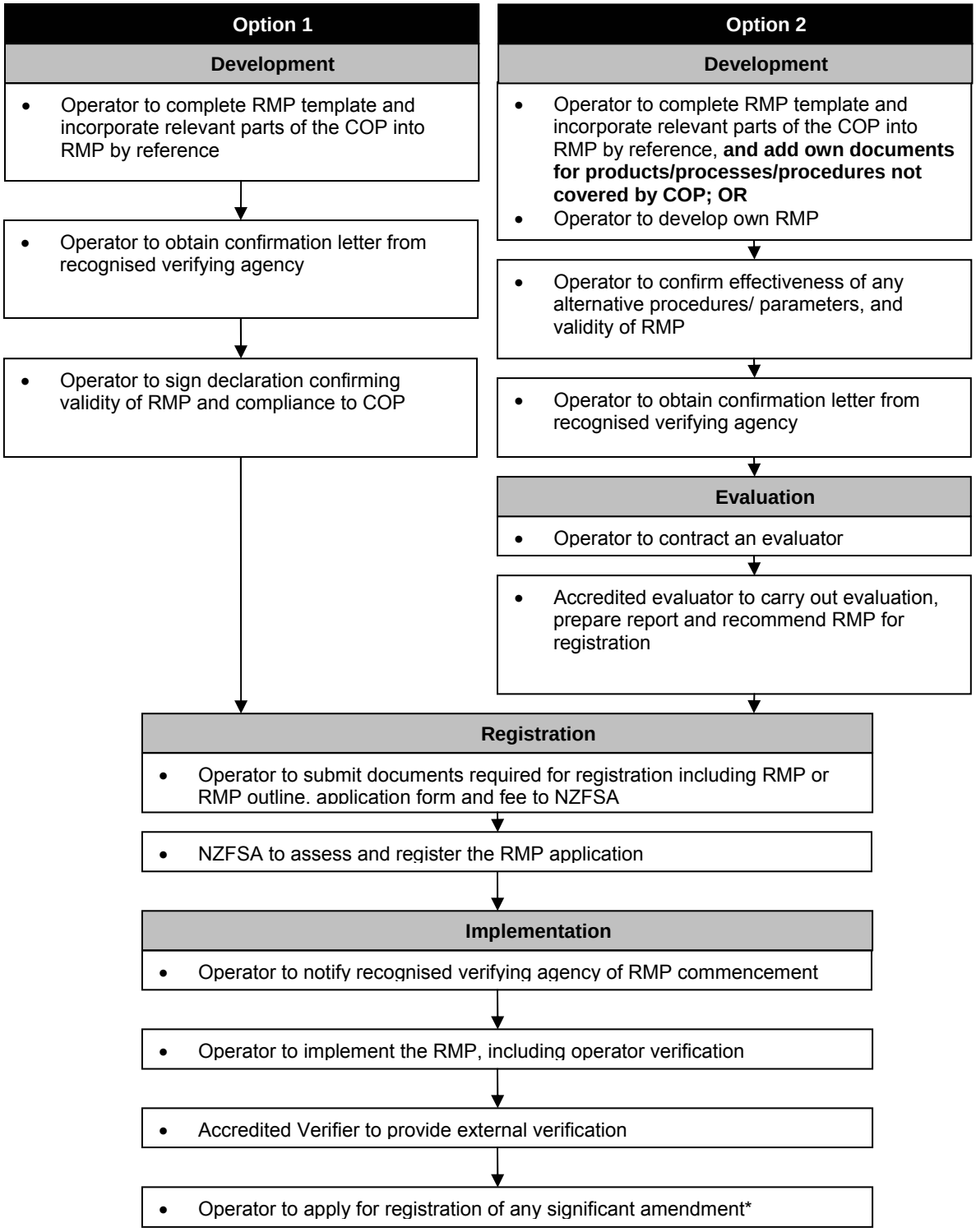
An RMP that is not fully covered by an approved COP or has procedures that vary from the COP will need to be evaluated by an independent evaluator to confirm the adequacy of the RMP. Evaluation will involve a desk-top audit of the documented RMP and may require an on-site visit of the premises before registration of the RMP.

2.3 Steps for the development, registration and implementation of an RMP based on the RMP template

The steps for the development, registration and implementation of an RMP are summarised in Figure 1. The diagram shows the steps for two options:

- Option 1: For businesses whose products and processes are fully covered by the COP.
- Option 2: For businesses whose products and processes are not fully covered by the COP, or who have decided to apply procedures or processing parameters that significantly differ from those given in the COP.

Figure 1. Steps for the development, registration and implementation of an RMP



* Significant amendments will require evaluation prior to registration

3 Guidelines for Completing the RMP Template

Disclaimer

Considerable effort has been made to ensure that the information provided in the RMP Template for the Processing of Honey and Dried Pollen, and the RMP Template for the Storage of Bulk Honey is accurate, up to date, and otherwise adequate in all respects. Nevertheless, these Templates are approved STRICTLY on the basis that the Crown, the New Zealand Food Safety Authority, its statutory officers, employees, agents, and all other persons involved with the writing, editing, approval or publication of, or any other kind of work in connection with these Templates:

a. disclaim any and all responsibility for any inaccuracy, error, omission, or any other kind of inadequacy, deficiency, or flaw in, or in relation to, the RMP Template for the Processing of Honey and Dried Pollen, and the RMP Template for the Storage of Bulk Honey; and

b. without limiting a) above, fully exclude any and all liability of any kind, on the part of any and all of them, to any person or entity that applies the RMP Template for the Processing of Honey and Dried Pollen, and the RMP Template for the Storage of Bulk Honey.

3.1 General instructions

The RMP template must be completed by a person or people who have full knowledge of the whole operation covered by the RMP. The person completing the template should:

a. read this guideline for each section of the template before completing it;

b. provide the required information by:

- entering information into the empty boxes or blank lines, or
- ticking the appropriate answer or information, e.g. [√]

c. ensure that all information provided is legible; and

d. ensure that everything written down accurately reflects or applies to their operation and that they will be able to comply with them.

3.2 Components of the RMP template

Section 1: Business identification

Business ID: Choose a unique business identifier. It must be a number or number/letter combination of at least 3 and not more than 10 characters with at least one character as a number and no leading zeros. The business identifier must not be the same as any exporter's registration number.

For those premises that are currently listed as eligible to export bee products to the EU, the same set of numbers must be used for the RMP identifier and for EU listing of the premises.

RMP No: Assign a consecutive two digit number (01-99) to each new RMP you have. Enter 01 if this is your first RMP.

Section 2: Operator name, business address and contact details

Full legal name: If the business is a company, then the full legal name must match the details given at the Companies Office exactly. If the business is a partnership or a sole trader operation then the name(s) of the business owner(s) must be provided.

Trading Name: This is the name that you trade under, i.e. the name that you use on your shop sign or letterhead, which may be different to the legal name given above.

Physical address: Give the street address of the premises covered by the RMP. The address of any off-site building where an activity covered by your RMP occurs and is under your control (e.g. storage shed) should also be given.

Postal address: Give the address where you want any correspondence sent to.

Phone / Fax / Email: Give the contact details for the business.

Tick the box to indicate that you agree to correspondence about your RMP being sent to you by email. This is recommended, whenever possible, as it speeds up communication from the NZFSA significantly.

Section 3: Responsible person

The day-to-day manager is the person responsible for the implementation of the RMP and for ensuring that it is kept up to date. He/she is the contact person for the NZFSA and the verification agency when dealing with matters related to the RMP.

Give the name, position or designation, and contact details (phone no., fax no., email address) of the day-to-day manager.

Section 4: Scope of the RMP

Physical boundaries: Tick the box to confirm that you have attached a basic site plan showing the buildings, facilities and external surroundings included under your RMP. Any off-site building where an activity covered by your RMP occurs and is under your control (e.g. storage shed) should be included as part of the physical boundaries of your RMP. The physical boundary of the RMP must be clearly marked on the site plan with a dark marking pen.

Areas and facilities within the boundary that are excluded in the RMP (e.g. retail shop that you wish to keep under the Food Act regime) should also be clearly indicated in the site plan.

Attach the site plan to the completed RMP template.

RMP coverage: Indicate the types of operation that are covered under your RMP by ticking the relevant boxes. If you have other operations that should be covered by the RMP, specify this under "other". If this "other" operation is not adequately covered by this template and the code of practice, you must add more details as required for these operations throughout the RMP.

Activities excluded from the RMP: Specify any activity that occurs within the physical boundaries of your RMP that you want to exclude because it is covered under a different RMP or under the Food Act regime.

Examples of activities that you may wish to keep under the Food Act regime are: retail shop, packing of honey only for the domestic market.

Section 5: Product description

Products: Consider all of the bee products that leave your RMP. If necessary, change the products listed to agree with what you produce. Delete or cross out the column of any product that you do not produce. If you produce other products that are not included in the table, add the required information into a new column or another page.

Intended consumer: Indicate whether the product is for human and/or animal consumption.

Intended uses: Indicate the uses for each product.

Regulatory limits: The NZFSA has not set any regulatory limits for honey or other bee products. Do not change or add anything to this row.

Other legal requirements: Specific legal requirements for each product are given. Do not change or add anything to these rows.

Labelling: Legal requirements for labelling are given. Do not change this information.

Indicate any label claims made for any product (e.g. organic).

(Note: All label claims must be truthful and evidence must be available to justify them).

Section 6: Process description

Process steps: Indicate all the key process steps included in your RMP by ticking the relevant boxes. Delete or cross out those steps that are not applicable to your process. If your process has other steps aside from those listed, specify them under the relevant product column.

Section 7: External verification

This section states that you authorize the contracted verifier to have the freedom and access to carry out verification activities. Do not change or add anything to this section.

Confirm, by ticking the box at the bottom of the section, that a letter has been received from the verification agency confirming that they will verify the RMP.

Section 8: RMP document list, responsibilities for and authorisation of RMP

Column 1: Document

This gives the list of all the documents, including the GMP supporting systems, that form part of your RMP. Ensure that all the documents are applicable to your RMP.

Columns 2 and 3: Documents from the COP

Instead of writing your own documents, the following RMP components can be incorporated into your RMP by reference in this document list:

- GMP supporting systems from Part 2 of the COP
- HACCP application from Part 3 of the COP
- Identification of other risk factors from Part 4 of the COP

Write the particular section of the COP that applies to your RMP under the “reference” column, and the date on the document referred to. The date indicates the version of the

document. Ensure that all documents are applicable to your product, process, and premises (follow the instructions in the box given below).

> The GMP supporting systems in Part 2 of the COP describe the hygienic practices and procedures that you will comply with. The external verifier will confirm the effectiveness of the RMP against these procedures and requirements.
>
> Read each GMP supporting sytem or programme thoroughly.
>
> Ensure that all the written procedures apply to your operation and that you will be able to comply with them.
>
> Some GMP supporting systems require that you provide information specific to your operation (e.g. Schedule 1 for water).
>
> Ensure that any additional documents are listed in the RMP Document List. Initial the bottom of every page of any additional document and put a date to indicate the version.

Columns 4 and 5: Operator's own documents based on the COP

Write the title and date of any of your own written procedures for products, processes, and GMP programmes that are covered in the COP. Examples of this type of documents are: cleaning schedules, pest control schedule, and operating procedures that are specific to your premises and personnel but still comply with the COP. Ensure that they are clearly identified, with a version number (e.g. date), as part of the RMP.

Columns 6 and 7: Operator's own documents for additional products, processes and procedures

Write the title and date of any of your own written procedures for products, processes, and GMP procedures that are **not** covered in the COP. Examples of this type of documents are: operating procedures for products other than honey and dried pollen, HACCP application and identification of other risk factors (wholesomeness and labelling) for other products . Ensure that they are clearly identified, with a version number (e.g. date), as part of the RMP.

Note: The RMP Template for the Storage of Bulk Honey does not have these columns since it is expected that all the products and activities under the RMP will be fully covered by the code of practice and the template.

Column 8: Person responsible for implementation

For each GMP supporting system, give the name or position of the person responsible for its implementation. For small operations, the same person may be responsible for all or most of the systems.

Section 9: Confirmation

Tick the 4 boxes to confirm that you agree to these statements.

Signature: The operator or the day-to-day manager of the RMP must sign and date the completed template.

4 RMP Evaluation and Registration

4.1 For RMPs completely based on the COP

After you have completed the RMP, you must apply to the NZFSA for registration using application form AP4: 'Registration of Risk Management Programme' which is available on the NZFSA website. You must submit the following to the NZFSA:

- completed AP4;
- completed RMP template including a site plan and letter from the verifying agency; and
- application fee of $100 (incl. GST).

4.2 For businesses whose products and processes are not fully covered by the COP, or who have decided to apply procedures or processing parameters that significantly differ from those given in the COP

After you have completed the RMP, you must arrange and pay for an accredited RMP evaluator to evaluate it. A list of these people is given on the NZFSA website.

Once the evaluator is satisfied with the RMP and has provided a report saying that the RMP is valid, you must apply to the NZFSA for registration using application form AP4: 'Registration of Risk Management Programme' which is available on the NZFSA website. You must submit the following to the NZFSA:

- completed AP4;
- completed RMP template, including a site plan and letter from the verifying agency; OR endorsed RMP or RMP outline, including a document list, site plan and letter from the verifying agency;
- evaluation report; and
- application fee of $100 (incl. GST).

For both RMP options, the NZFSA may ask for clarification or further information on any part of the RMP. There may be an additional assessment fee charged for the time of the NZFSA assessor. Once the NZFSA is satisfied with the RMP and all fees are paid, the RMP will be registered.

More detailed information about the registration, implementation, verification, amendment and cessation of RMPs are given in the Risk Management Programme Manual.

5 RMP Template for the Processing of Honey and Dried Pollen

This RMP template applies to businesses that are involved in the processing of honey or dried pollen.

The *Guidelines for Completing the RMP Template* should be referred to when completing this template.

The RMP template starts on the next page. This page is not part of the RMP.

1. Business Identification

Business ID:	RMP No.: ___ ___

2. Operator Name, Business Address and Contact Details

Full legal name (Company, sole trader, partnership):

Trading name (if different):

Physical address(es) of premises:	Phone No: Fax No: E-mail:
Postal address (for communication):	[ ] I give consent to being provided electronic information.

3. Responsible Person

Role	Name, position or designation	Contact Details (if different from above)
Day-to-day Manager of the RMP		

4. Scope of the RMP

[ ] The physical boundaries of the RMP are shown on the attached site plan.

The RMP covers the following processes or activities:

[ ] Extraction of honey

[ ] Processing and packing of liquid or creamed honey

[ ] Cutting and packing of comb honey

[ ] Storage of honey

[ ] Melting and moulding of bees wax

[ ] Drying, cleaning and packing of dried pollen

[ ] Other (specify) _____

The following products or activities that occur within the physical boundaries of the RMP are excluded because they are covered under a different RMP or under the Food Act :

Product or activity:	Covered under:	
_____	[ ] Another RMP No. _____	[ ] Food Act
_____	[ ] Another RMP No. _____	[ ] Food Act

5. Product Description

Products	**Bulk honey**	**Liquid or creamed honey**	**Comb honey**
Intended consumer	Humans (general public)	Humans (general public)	Humans (general public)
Intended use of product that leaves RMP	• Further processing and packing to liquid/creamed honey or other honey products • Ingredient for preparation of other foods	• Ready-to-eat • Ingredient for preparation of other foods	• Ready-to-eat • Ingredient for preparation of other foods
Regulatory limits	None	None	None
Other regulatory requirements specific to product	Food Standards Code 2.8.2 - • Reducing sugars ≥ 60% • Moisture ≤ 21%	Food Standards Code 2.8.2 - • Reducing sugars ≥ 60% • Moisture ≤ 21%	Food Standards Code 2.8.2 - • Reducing sugars ≥ 60% • Moisture ≤ 21%
	AP (Residue Specification) Notice 2004 - Specified chemical substances in honey ≤ maximum permissible levels	AP (Residue Specification) Notice 2004 - Specified chemical substances in honey ≤ maximum permissible levels	AP (Residue Specification) Notice 2004 - Specified chemical substances in honey ≤ maximum permissible levels
	Every consignment of honey must be provided with an *Apiarist and Beekeeper Statement* (i.e. Harvest declaration) and comply with HC Spec 108.	Every consignment of honey must be provided with an *Apiarist and Beekeeper Statement* (i.e. Harvest declaration) and comply with HC Spec 108.	Every consignment of honey must be provided with an *Apiarist and Beekeeper Statement* (i.e. Harvest declaration) and comply with HC Spec 108.
Labelling	Labelling of transportation outers as specified in HC Spec 32.	Labelling of retail packs as specified in the Food Standards Code. Labelling of transportation outers as specified in HC Spec 32.	Labelling of retail packs as specified in the Food Standards Code. Labelling of transportation outers as specified in HC Spec 32.

5. Product Description (continued)				
Products	**Beeswax**	**Spilt honey, downgraded honey (e.g. fermented)**	**Dried pollen**	**Others**
Intended consumer	Humans (general public)	Animals	Humans (general public)	
Intended use of product that leaves RMP	• Further processing into products for pharmaceutical use and manufacture of cosmetics • Further processing into comb foundation	Feed for bees and other animals (e.g. horses).	• Ready-to-eat • Ingredient for preparation of other foods & dietary supplements	
Regulatory limits	None	None	None	
Other regulatory requirements specific to product	N/A	N/A	Every consignment of pollen must be provided with an *Apiarist and Beekeeper Statement* and comply with HC Spec 108.	
Labelling	Labelling of transportation outers as specified in HC Spec 32.	Labelled “Not for Human Consumption”	• Labelling of retail packs as specified in the Food Standards Code including an advisory statement as required by Standard 1.2.3. • Labelling of transportation outers as specified in HC Spec 32.	

6. Process Description

Bulk honey	Liquid or creamed honey	Comb honey	Beeswax
[ ] Receiving supers	[ ] Receiving of bulk honey	[ ] Receiving of honey supers	[ ] Collection of cappings and other wax material
[ ] Holding in hot room/ store room	[ ] Storage	[ ] Storage of supers	[ ] Separation of honey from cappings
[ ] Deboxing	[ ] Cleaning drum external surface	[ ] Deboxing	[ ] Melting of wax
[ ] Uncapping	[ ] Heating in hot room	[ ] Removal of wires	[ ] Filling of wax into moulds
[ ] Pricking/loosening	[ ] Pouring honey into vats/tanks	[ ] Inspection of combs	[ ] Cooling
[ ] Extraction	[ ] Heating using heat exchanger	[ ] Cutting of combs	[ ] Dispatch
[ ] Transfer through sump	[ ] Filtering	[ ] Packing & labelling	
[ ] Heating using heat exchanger	[ ] Creaming	[ ] Freezing	
[ ] Spinning	[ ] Holding in tanks	[ ] Dispatch	
[ ] Pumping into tanks & straining	[ ] Packing and labelling		
[ ] Holding in tanks	[ ] Storage		
[ ] Filling of honey into drums	[ ] Dispatch		
[ ] Labelling/marking of drums			
[ ] Storage			
[ ] Dispatch			

6. Process Description (continued)				
Dried pollen	**Others**			
[ ] Receiving pollen [ ] Holding in freezer [ ] Drying [ ] Cleaning and sorting [ ] Bulk packing [ ] Retail packing & labelling [ ] Storage [ ] Dispatch				

7. External Verification

Verifier's Freedom and Access to carry out Verification Functions (RMP Specifications 2003, clause 15)

I authorise my contracted verifier to have the freedom and access necessary to allow him/her to carry out verification functions and activities, including —

(a) having access to all parts of the premises or place and facilities within the physical boundaries of, or relating to, the risk management programme; and

(b) having access to all documentation, records and information relating to, or comprising, the risk management programme (including records held in electronic or other form); and

(c) having freedom to examine all things necessary and open any containers, packages and other associated things to inspect their contents; and

(d) having freedom to identify or mark any animal material, animal product, equipment, package, container or other associated thing; and

(e) having freedom to—

  (i) examine and take samples of any animal material, animal product or any other input, substance, or associated thing which has been, is, or may be in contact with, or in the vicinity of, any animal material or animal product; and

  (ii) test, or analyse, or arrange for the testing or analysis of such samples; and

  (iii) order retention of materials including animal material, ingredients, animal product, packaging or equipment pending testing results and decisions on disposition; and

(f) having authority to detain any animal material and animal product or other relevant things in the event of non-compliance with the risk management programme where there may be significant risk to fitness for intended purpose of animal product or suitability for processing of animal material; and

(g) having authority to intervene and direct a temporary interruption of processing in cases of significant risk to fitness for intended purpose of animal product or suitability of animal material for processing until the cause of the risk has been remedied.

[ ] A letter has been received from the verification agency confirming they will verify the RMP at all sites covered by this RMP.

8. RMP Document List, Responsibilities For and Authorisation of RMP

Document	**Documents from the COP**		**Operator's own documents based on the COP**		**Operator's own documents for additional products/processes/ procedures**		**Person responsible for Implementation**
	Reference	**Date**	**Reference**	**Date**	**Reference**	**Date**	
Main part of RMP (this document)	N/A		Completed RMP template				
GMP Supporting Systems:							
Design and construction of buildings, facilities and equipment							
Potable water							
Cleaning and sanitation							
Personnel competency, health and hygiene							
Control of chemicals							
Pest control							
Packaging materials (specifications, handling and storage)							
Receipt and processing of honey and dried pollen							
Document control and record keeping (including inventory control)							
Recall of products							
Operator verification							

8. RMP Document List, Responsibilities For and Authorisation of RMP (continued)

Document	Documents from the COP		Operator's own documents based on the COP		Operator's own documents for additional products/processes/ procedures		Person responsible for Implementation
	Reference	Date	Reference	Date	Reference	Date	
HACCP Application							
Identification of risk factors related to wholesomeness and labelling							
Other documents:							
Site plan of physical boundaries							
Letter from Verification Agency							
Assessment of Water Supply Status (only necessary for own supply)							
Record forms							

9. Confirmation

[ ] I confirm that all of the documents listed in Section 8 are appropriate for my operation.

[ ] I confirm that all facilities and equipment necessary to implement the RMP are available and ready to operate.

[ ] I confirm that the RMP, including all supporting systems, has been authorised by me.

[ ] I confirm that the RMP will be implemented as written, including all relevant parts of the code of practice.

Signature of Operator or Day-to-day Manager of RMP: _____ **Date: / /**

6 RMP Template for the Storage of Bulk Honey

This RMP template applies to businesses that are involved only in the storage of bulk honey contained in drums or other bulk containers (i.e. beekeepers who store bulk honey that have been extracted by another processor). Operators who are involved in the processing of honey or dried pollen should use the *RMP Template for the Processing of Honey and Dried Pollen.*

The *Guidelines for Completing the RMP Template* should be referred to when completing this template.

The RMP template starts on the next page. This page is not part of the RMP.

1. Business Identification

Business ID:	RMP No.: ___ ___

2. Operator Name, Business Address and Contact Details

Full legal name (Company, sole trader, partnership):

Trading name (if different):

Physical address(es) of premises:	Phone No: Fax No: E-mail:
Postal address (for communication):	[ ] tick for consent to being provided electronic information.

3. Responsible Person

Role	Name, position or designation	Contact Details (if different from above)
Day-to-day Manager of the RMP		

4. Scope of the RMP

[ ] The physical boundaries of the RMP are shown on the attached site plan.

The RMP covers the following processes or activities:

[ ] Supply of empty drums to extractor
[ ] Transport of bulk honey from extraction plant to storage facility
[ ] Storage of bulk honey
[ ] Melting and moulding of beeswax
[ ] Storage of beeswax
[ ] Other: _____

The following products or activities that occur within the physical boundaries of the RMP are excluded because they are covered under a different RMP or under the Food Act :

Product or activity:	Covered under:	
_____	[ ] Another RMP No. _____	[ ] Food Act
_____	[ ] Another RMP No. _____	[ ] Food Act

5. Product Description

Products	**Bulk honey**	**Beeswax**
Intended consumer	Humans (general public)	Humans (general public)
Intended use of product that leaves RMP	• 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 • Further processing into comb foundation
Regulatory limits	None	None
Other regulatory requirements specific to honey	Food Standards Code 2.8.2 - • Reducing sugars ≥ 60% • Moisture ≤ 21%	N/A
	AP (Residue Specification) Notice 2004 - Specified chemical substances in honey ≤ maximum permissible levels	N/A
Labelling	Labelling of transportation outers as specified in HC Spec 32.	Labelling of transportation outers as specified in HC Spec 32.

6. Process Description

Bulk Honey	**Beeswax**
[ ] Loading and transport of honey drums from extraction plant	[ ] Transport of containers of cappings and other wax material
[ ] Receiving and unloading at storage facility	[ ] Transport of wax blocks to storage facility
[ ] Storage	[ ] Melting of wax
[ ] Dispatch	[ ] Filling of wax into moulds
	[ ] Cooling
	[ ] Storage
	[ ] Dispatch

7. External Verification

Verifier's Freedom and Access to carry out Verification Functions (RMP Specifications 2003, clause 15)

I authorise my contracted verifier to have the freedom and access necessary to allow him/her to carry out verification functions and activities, including —

(a) having access to all parts of the premises or place and facilities within the physical boundaries of, or relating to, the risk management programme; and

(b) having access to all documentation, records and information relating to, or comprising, the risk management programme (including records held in electronic or other form); and

(c) having freedom to examine all things necessary and open any containers, packages and other associated things to inspect their contents; and

(d) having freedom to identify or mark any animal material, animal product, equipment, package, container or other associated thing; and

(e) having freedom to—

  (i) examine and take samples of any animal material, animal product or any other input, substance, or associated thing which has been, is, or may be in contact with, or in the vicinity of, any animal material or animal product; and

  (ii) test, or analyse, or arrange for the testing or analysis of such samples; and

  (iii) order retention of materials including animal material, ingredients, animal product, packaging or equipment pending testing results and decisions on disposition; and

(f) having authority to detain any animal material and animal product or other relevant things in the event of non-compliance with the risk management programme where there may be significant risk to fitness for intended purpose of animal product or suitability for processing of animal material; and

(g) having authority to intervene and direct a temporary interruption of processing in cases of significant risk to fitness for intended purpose of animal product or suitability of animal material for processing until the cause of the risk has been remedied.

[ ] A letter has been received from the verification agency confirming they will verify the RMP at all sites covered by this RMP.

8. RMP Document List, Responsibilities For and Authorisation of RMP

Document	Documents from the COP or RMP Template		Operator's own documents		Person Responsible For Implementation
	Reference	**Date**	**Reference**	**Date**	
Completed RMP template	(this document)				
GMP Supporting Systems:					
Environmental hygiene and personnel competency	Attachment A				
Storage and handling of honey drums	Attachment B				
Potable water (only for those who wash drums)	Part 2 , Section 3				
Document control and record keeping, including inventory control	Part 2, Section 10				
Recall of products	Part 2, Section 11				
Operator verification	Part 2, Section 12				
HACCP Application	Part 3				
Identification of risk factors related to wholesomeness and labelling	Part 4				
Other documents:					
Site plan of physical boundaries					
Letter from verification agency					

9. Confirmation

[ ] I confirm that all of the documents listed in Section 8 are appropriate for my operation.

[ ] I confirm that all facilities and equipment necessary to implement the RMP are available and ready to operate.

[ ] I confirm that the RMP, including all supporting systems, has been authorised by me.

[ ] I confirm that the RMP will be implemented as written, including all relevant parts of the code of practice.

Signature of Operator or Day-to-day Manager of RMP: _____ **Date: / /**

Attachment A: Environmental Hygiene and Personnel Competency

The procedures given in this attachment are those that are considered relevant to the storage of bulk honey. They have been extracted from *Part 2: Good Manufacturing Practice of the Code of Practice: Processing of Bee Products*. The operator should refer to the code of practice for full details of the mandatory requirements.

The following abbreviations are used in this document:

AP Reg – Animal Products Regulations 2000

HC Spec – current version of the Animal Products (Specifications for Products Intended for Human Consumption) Notice

RMP Spec – current version of the Animal Products (Risk Management Programme Specifications) Notice

1. Design and construction of buildings and facilities

1.1 Mandatory requirements

AP Reg 10; HC Spec 19 (1)

1.2 Procedures

1.2.1 The premises must be located away from:

- environmentally polluted areas and industrial activities which pose a serious threat of directly or indirectly contaminating bulk honey or other bee products stored within the premises;
- 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.

1.2.2 Adequate facilities must be available for:

- storage of bulk honey and other bee products, packaging, cleaning materials and other maintenance compounds, and other materials;

- cleaning and sanitation of facilities and equipment;
- personnel hygiene (e.g. hand washing units); and
- effective drainage and disposal of wastes.

1.2.3 Buildings and storage facilities (including water storage tanks) must be kept in good repair and condition to prevent pest access and to eliminate potential breeding sites.

2. Premises hygiene and maintenance

2.1 Mandatory requirements

AP Reg 11; AP Reg 11 (2) and (3)

2.2 Procedures

2.2.1 Bulk honey, empty drums and other materials must be stacked and stored in a tidy manner.

2.2.2 Spills must be cleaned up immediately.

2.2.3 Damaged drums must be removed and disposed of as soon as possible.

2.2.4 Internal and external areas of the premises must be kept clean and tidy.

2.2.5 The external environment must be checked regularly and kept free of any food and pest breeding sites (e.g. long grass, bird's nest, accumulated wastes and junk)

2.2.6 Waste materials must be kept in covered pest-proof containers, and must be regularly collected and disposed of.

3. Personnel competency

3.1 Mandatory requirements

RMP Spec 13 (2) and (3)

3.2 Procedures

3.2.1 The day-to-day manager or person authorising all or part of the RMP must be familiar with the documented risk management programme and have the following competencies:

- have knowledge in food safety, and hygienic procedures and practices documented in the code of practice;
- have knowledge in regulatory requirements, including responsibilities, related to the effective development and implementation of the risk management programme;
- have technical knowledge and experience in the storage and handling of bulk honey and other bee products; and
- able to liaise and communicate effectively with workers and the regulator.

3.2.2 Workers performing key tasks including monitoring, corrective action, and operator verification must have the following competencies:

- have knowledge and skill in executing the particular task; and
- be familiar and able to consistently comply with hygienic practices and procedures.

Attachment B: Storage and Handling of Drums

The procedures given in this attachment are those that are considered relevant to the storage of bulk honey. They have been extracted from *Part 2: Good Manufacturing Practice*, section 8 of the *Code of Practice: Processing of Bee Products.* The operator should refer to the code of practice for full details of the mandatory requirements.

The following abbreviations are used in this document:
AP Reg – Animal Products Regulations 2000
HC Spec – current version of the Animal Products (Specifications for Products Intended for Human Consumption) Notice
RMP Spec – current version of the Animal Products (Risk Management Programme Specifications) Notice

1. Mandatory requirements

HC Spec 30 (1) and (3); HC Spec 21(1) and (2); AP Reg 11(3)

2. Procedures

2.1 Construction of metal drums

All metal drums, including new, reused and reconditioned drums, must be coated or lined with a food grade coating. The coating must:

- provide a barrier between the metal surface of the drum and honey;
- be inert;
- not impart any flavour to honey;
- be suitable for acidic foods such as honey; and
- be resistant to delamination, flaking or peeling.

The internal lining should be approved by the US FDA under Code of Regulations 175.300. For drums that are to be reused, a heavy duty lining, such as a food grade epoxy phenolic lining (Coat G), is recommended. A specification or letter confirming the suitability of the lining should be provided by the drum supplier.

2.2 Reused or reconditioned drums

2.2.1 Drums that have been used to contain non-food materials (e.g. petroleum products and other chemicals) must not be reused for honey.

Care must 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.

2.2.2 Reused drums that have contained other foods such as sucrose, glucose, or orange juice must be thoroughly washed and dried, in such a manner as to remove all residues of the food material, before using for honey.

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.

2.3 Inspection of drums

2.3.1 Drums must be checked for damage, deterioration and contaminants prior to use to ensure that they are suitable for containing honey.

Drums should have tightly fitted bungs. Loose bungs indicate that water and other contaminants could have entered the drums.

2.3.2 The internal surface of drums must have no cracks, rust, delaminated coatings, and other defects or damage that may impact on the safety and suitability of honey.

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.

2.3.3 Badly dented drums must not be used.

Dents can lead to cracking or delamination of the internal lining, and weakening of seams.

2.3.4 Drums that contain residues of fermented honey must be washed and dried before reuse.

2.4 Storage and handling of drums

2.4.1 Empty and full drums must be stored in a manner that prevents deterioration of the drums, and the entry of water and contaminants into the drums.

Empty and full drums should be stored 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.

The top of full drums that are stored outside should be covered 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).

Empty and full drums should be stored off the ground (e.g. use pallets).

2.4.2 Drums should have properly fitted bungs that prevent the entry of moisture and other contaminants.

2.4.3 Drums must be handled and transported in such a manner that prevents dents and other forms of damage.

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

2.5 Washing and drying of drums

2.5.1 Potable water must be used for washing of drums. Refer to the requirements for potable water given in Part 2, Section 3.

2.5.2 Any detergent or chemical used must be an approved maintenance compound.

2.5.3 Drums must be completely rinsed and dried after washing and before being sealed with a bung.

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