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Te Mana Kounga Kai – Ahitereiria me Aotearoa

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Supporting document 1

P1052 - Primary Production and Processing Requirements for Horticulture (Berries, Leafy Vegetables and Melons)

Current food safety measures for horticultural produce (domestic and international) (as at 5 March 2021)

Executive summary

There are a combination of regulatory and non-regulatory measures available to manage the safety of horticultural produce in Australia. These include legislation at the different levels of government, food safety programs and guidance documents.

In Australia there are currently no national regulatory food safety requirements that apply to the primary production and processing of horticultural products, except for seed sprouts. Chapter 3 of the Australia New Zealand Food Standards Code (the Code) applies to 'food businesses', which generally excludes primary producers unless they sell food directly to the consumer.

Standards in the Code are implemented and enforced by states and territories (jurisdictions) in Australia. Standards developed by FSANZ and approved by food ministers are automatically adopted under model state and territory food laws, which ensures consistent laws across the country. Despite there being no specific standards for the primary production and processing of horticultural products (except sprouts), some jurisdictions set out food safety scheme requirements in regulations under their food Acts. The Australian Government Department of Agriculture, Water and the Environment administers legislation to regulate the import and export of food, including plant products. The main focus of import legislation is on preventing the introduction and spread of pests and plant diseases.

Internationally, there is considerable variation in the legislation applicable to the production of horticultural produce. For example, in New Zealand the *Food Act 2014* focusses on the food production process rather than the premises on which the food is made. Food safety risk in New Zealand is managed through food control plans and, for lower risk food businesses, through national programs.

There are various non-regulatory measures available in Australia that aim to ensure the safety of horticultural products. Comprehensive but voluntary on-farm food safety schemes provide guidance on how produce should be grown, packed, prepared and distributed. Compliance with the requirements of these schemes is assessed through a third party audit. While these schemes are not mandatory, most large retailers require them. Many of these schemes are benchmarked to international Global Food Safety Initiative (GFSI) requirements

and include control measures that cover the microbiological risk factors FSANZ identified in this proposal. The schemes provide varying degrees of coverage across the supply chain. Note: The effectiveness of these schemes has not been assessed in this paper.

In addition to food safety schemes, non-regulatory measures have been developed by jurisdictions to assist primary producers, these include guidelines, codes of practice and other documented advice. Some of these documents place more emphasis on food safety practices than others. Some initiatives targeting food safety and traceability have been completed or are being trialled, particularly for melons. Food safety culture initiatives are also expanding, with the growing recognition of the importance of behaviour and commitment to ensuring safe food.

This document describes existing regulatory and non-regulatory measures in Australia and in other countries, compares current legislation across states and territories, and analyses the requirements of the existing food safety schemes in Australia. It also sets out the main food safety risk factors and control measures identified by FSANZ and compares these with high-level GFSI benchmarking requirements for food safety schemes.

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1   Introduction

This paper describes the food safety management environment for primary production and processing of horticultural products in Australia. It includes both regulatory requirements and non-regulatory measures for the growing, harvesting, primary processing (e.g. washing, trimming and postharvest treatments), packing, storage, transport, export and import of horticultural products.

The paper outlines the joint food regulatory system in Australia and New Zealand. It identifies relevant standards from the Australia New Zealand Food Standards Code[1] (the Code), state and territory legislation and import and export requirements. For comparison, the regulatory environments in New Zealand, United States, Canada and the European Union are also described. Non-regulatory measures including the non-mandatory food safety schemes and relevant guidance materials are also included.

In 2014 Food Standards Australia New Zealand (FSANZ) assessed Proposal P1015 – Primary Production & Processing Standard for Horticulture. Some information from that assessment is still relevant to the current Proposal P1052 – Primary Production and Processing Requirements for Horticulture (Berries, Leafy Vegetables and Melons) and is referred to here. However, this paper largely focusses on elements of food safety management controls that have changed since the assessment of P1015.

2   Regulatory roles and requirements

The Australian and New Zealand joint food regulation system comprises laws, policies, standards and processes that involve all levels of Australian and New Zealand governments. In 2000, the Council of Australian Governments (COAG) signed an Inter-Government Agreement on Food (the Food Regulation Agreement[2]) committing to a national system of food regulation. State and territory Food Acts (based on model food provisions set out in Annex A and Annex B[3] of the Food Regulation Agreement) provide the basis for nationally consistent application and implementation of regulatory requirements. New Zealand, although not a signatory to the Food Regulation Agreement, participates in the joint food regulation system through the Agreement Between the Government of Australia and the Government of New Zealand Concerning a Joint Food Standards System[4] (the Treaty).

The Food Ministers' Meeting (Food Ministers) is responsible for approving food policy and reviewing all food standards. Ministerial policy guidelines are developed to ensure clear and unambiguous policy principles address significant food problems.

FSANZ is responsible for the development and administration of the Code. In 2002, COAG agreed to pass responsibility for developing primary production standards to FSANZ. The ministerial council (now the Food Ministers' Meeting) subsequently issued a policy guideline[5] on primary production and processing standards.

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[1] Available at: https://www.foodstandards.gov.au/code/Pages/default.aspx
[2] Available at: https://foodregulation.gov.au/internet/fr/publishing.nsf/Content/key-system-documents
[3] Available at: https://foodregulation.gov.au/internet/fr/publishing.nsf/Content/key-system-documents
[4] Available at: https://foodregulation.gov.au/internet/fr/publishing.nsf/Content/key-system-documents
[5] Available at: https://foodregulation.gov.au/internet/fr/publishing.nsf/Content/publication-policy-guideline-on-primary-production-and-processing-standards

Australian state and territory governments and the New Zealand Government implement and enforce the food standards through their respective Food Acts. The Australian Department of Agriculture, Water and the Environment (DAWE) enforces food standards at the border in relation to imported food through the *Imported Food Control Act 1992*[6]. Australian and New Zealand authorities work closely together to ensure food laws are implemented and enforced consistently wherever possible, through the Implementation Subcommittee for Food Regulation[7], which sits under the Food Ministers' Meeting.

2.1 Australia New Zealand Food Standards Code

The Code is a collection of food regulatory measures given effect by state, territory or other Commonwealth laws. These laws generally rely on provisions that rely on compliance with Code requirements. The Code does not include specific food safety requirements for berries, leafy vegetables or melons.

Chapter 1 (of the Code): Introduction and Standards that Apply to All Foods, and Chapter 2 (of the Code): Food Standards, apply to all food sold or traded at retail and wholesale level in Australia and New Zealand (except Standards 1.4.2 and 1.6.2, which apply to Australia only). The standards included in these chapters include labelling requirements, the maximum permitted levels for additives, processing aids, contaminants and natural toxicants, novel foods, microbiological limits for food and standards for specific food products.

Chapter 3 (of the Code): Food Safety Standards, applies food safety requirements to food businesses involved in the handling of food intended for sale. Food safety requirements for primary production activities are included in Chapter 4 (of the Code): Primary Production Standards. Chapters 3 and 4 apply in Australia only. New Zealand has its own food safety legislation for food businesses and primary producers, developed and implemented by the New Zealand Ministry for Primary Industries (see section 2.6).

2.1.1 Food safety standards

The food safety standards aim to ensure that only safe and suitable food is sold in Australia. These standards apply to food businesses. Standard 3.1.1 – Interpretation and application, defines a food business and primary food production as:

> **Food business** means a business, enterprise or activity (other than primary food production) that involves –

(a) the handling of food intended for sale; or
(b) the sale of food;

> regardless of whether the business, enterprise or activity concerned is of commercial, charitable or community nature or whether it involves the handling or sale of food on one occasion only.

> **Primary food production** means the growing, cultivation, picking, harvesting, collection or catching of food, and includes the following –

(a) the transportation or delivery of food on, from or between the premises on which it was grown, cultivated, picked, harvested, collected or caught;
(b) the packing, treating (for example, washing) or storing of food on the premises on which it was grown, cultivated, picked, harvested, collected or caught; and
(c) any other food production activity that is regulated by or under an Act prescribed by the regulations for the purpose of this definition.

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[6] Available at: https://www.legislation.gov.au/Details/C2004C00775
[7] See: https://foodregulation.gov.au/internet/fr/publishing.nsf/Content/ISFR

However, primary food production does not include –

(d) any process involving the substantial transformation of food (for example, manufacturing or canning), regardless of whether the process is carried out on the premises in which the food was grown, cultivated, picked, harvested, collected or caught; or
(e) the sale or service of food directly to the public; or
(f) any other food production activity prescribed by the regulations under the Act for the purposes of this definition.

2.1.2 Primary production and processing

The only current standard directly related to horticulture is Standard 4.2.6 - Production and processing standard for seed sprouts. This standard sets out provisions to minimise potential food safety risks and to reduce the incidence of foodborne illness from the consumption of seed sprouts. It covers processing of seed sprouts, including general food safety management, receiving seed, inputs, decontamination, traceability and sale and supply.

2.1.3 Other standards relevant to horticultural products

In addition to the food safety standards and primary production and processing standards identified above, other standards are generally relevant to horticultural products. These standards cover labelling requirements and exemptions, food additives, processing aids, maximum levels of contaminants and natural toxicants, and maximum residue limits for agricultural and veterinary chemical residues in food. These standards are discussed in detail in the P1015 Supporting Document 1 – Information Paper[8].

2.2 State and territory legislation

The primary production and processing of horticultural products is regulated to varying degrees by each state and territory (jurisdictions). Some jurisdictions have amended the definitions of 'food business' and 'primary food production' in their Food Acts to apply food safety requirements to horticulture primary production and processing. Legislative requirements applied by some jurisdictions are outlined below. A comparison of each jurisdiction's definition of food business and primary food production is provided in Annex 1.

2.2.1 New South Wales

In New South Wales (NSW), the safety of fresh produce and other food is the responsibility of the NSW Food Authority and is regulated under the *Food Act 2003* (NSW) and *Food Regulation 2015*. The regulations set minimum food safety requirements for various food industry sectors that are identified through a risk assessment as high risk. The *Food Regulations 2015* regulate the Plant Products Food Safety Scheme[9] (the Scheme), which was first introduced into legislation in 2005 and applies to the following plant product industries:
- fresh cut fruit and vegetables
- unpasteurised juices
- seed sprouts
- vegetables in oil.

Food businesses engaged in activities related to these products must be licenced, have a certified food safety program in place and be independently audited for food safety. Requirements in the Scheme do not cover primary production activities.

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[8] Available at: https://www.foodstandards.gov.au/code/proposals/Pages/proposalp1015primary5412.aspx
[9] Available at: http://www.foodauthority.nsw.gov.au/aboutus/science/risk-assessment-of-food-safety-schemes/plant-products-food-safety-scheme

In 2014, the NSW Food Authority assessed other plant products to determine if they should also be classified as high risk and included in the Scheme. These products included fermented vegetables, vegetable-based dips and sauces, soy products, mixed salads and fresh cut herbs. The review determined that there were no specific hazards to justify classifying the products as high risk[10].

2.2.2   Queensland

In Queensland, three government agencies work together to regulate food safety: Safe Food Production Queensland, Queensland Health and the Department of Agriculture and Fisheries. The day-to-day regulation of primary production and processing is the responsibility of Safe Food Production Queensland under the *Food Production (Safety) Act 2000* and the *Food Production (Safety) Regulation 2014*.

Following the introduction of Standard 4.2.6 in the Code in 2013, Safe Food Production Queensland introduced a horticulture food safety scheme applying to seed sprouts.[11] This scheme provides a minimum set of requirements that a primary production and/or processing business must comply with to ensure its food is safe. The seed sprout scheme is currently the only scheme for horticulture.

Under the scheme, processors require accreditation if they are involved in the decontamination of seed or seed sprouts, soaking of seed, germination or growth of seed, harvest of seed sprouts and washing, drying or packing of seed sprouts. Accreditation is not required for retail sales of horticultural produce.

2.2.3   South Australia

In South Australia, primary production activities are regulated by the Department of Primary Industries and Resources of South Australia (PIRSA) through the *Primary Produce (Food Safety Schemes) Act 2004*. This Act enables food safety schemes (regulations) to apply to primary production and processing[12].

The seed sprouts food safety scheme takes effect through the *Primary Produce (Food Safety Schemes) (Plant Products) Regulations 2006*. This scheme requires producers to be accredited, have an approved food safety arrangement and comply with Standard 4.2.6 of the Code. Producers of the following seed sprouts for human consumption are required to be accredited: alfalfa, broccoli, clover, onion, radish, sunflower seeds or other seeds, mung beans or other beans, and snow peas or other peas.

2.3 Management of chemicals

Agricultural and veterinary chemicals (Agvet chemicals) are regulated under national and state-based laws. In the Code, maximum residue limits and contaminants are covered under Standard 1.4.1 - Contaminants and natural toxicants and Standard 1.4.2 - Agvet chemicals.

The Australian Pesticides and Veterinary Medicines Authority (APVMA) assesses and registers Agvet chemical products nationally. APVMA regulates Agvet chemicals up to the point of sale under the *Agricultural and Veterinary Chemicals Code Act 1994*[13] and associated regulations.

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[10] See: http://www.foodauthority.nsw.gov.au/aboutus/science/risk-assessment-of-food-safety-schemes
[11] See: https://www.safefood.qld.gov.au/food-business/want-sell-supply/
[12] See: https://www.pir.sa.gov.au/biosecurity/food_safety/food_safety_schemes_and_legislation
[13] Available at: https://www.legislation.gov.au/Details/C2016C00999

States and territories are responsible for regulating Agvet chemical use after retail sale, through their own legislation. State-based acts and regulations cover control-of-use activities such as:
- training and accreditation of users
- licensing of professional operators
- monitoring
- surveillance
- enforcement.

It should be noted however, that proposal P1052 did not consider and does not extend to chemical contamination. Proposal P1052 focuses on the reduction of food borne illness resulting from microbial contamination only.

2.4 Export requirements

Australia regulates its exports to facilitate trade. Regulation also gives effect to international agreements including the World Trade Organization's Agreement on the Application of Sanitary and Phytosanitary Measures[14].

Horticultural produce for export is regulated through the *Export Control Act 2020*[15], and the *Export Control (Plants and Plant Products) Rules 2021*[16] (Plants and Plant Products Rules).

The Plants and Plant Products Rules sets out requirements for the export of plants and plant products, including:
- prescribed grain
- hay and straw
- fresh fruit
- fresh vegetables
- plants and plant products for which a phytosanitary certificate or any other official certificate is required by an importing country authority.

Some general hygiene requirements are included in the Plants and Plant Products Rules, linked to equipment and operations. The focus is on the control of pests for biosecurity purposes.

The DAWE [17] website provides information on export requirements. Exporters must meet both the requirements of relevant export legislation and any importing country requirements for DAWE to provide the necessary documentation to enable products to be exported.

2.5 Import requirements

Food that meets the requirements of the *Biosecurity Act 2015*[18] and enters Australia is subject to the *Imported Food Control Act 1992*[19]. The *Imported Food Regulations 2019*[20] establishes the Imported Food Inspection Scheme[21] (IFIS) and together with the *Imported*

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[14] Available at: https://www.wto.org/english/tratop_e/sps_e/spsagr_e.htm
[15] Available at: www.legislation.gov.au/Details/C2020A00012
[16] Available at: www.legislation.gov.au/Details/F2021L00315
[17] See: http://www.agriculture.gov.au/export
[18] Available at: https://www.legislation.gov.au/Series/C2015A00061
[19] Available at: https://www.legislation.gov.au/Series/C2004A04512
[20] Available at: https://www.legislation.gov.au/Details/F2019L01006
[21] Available at https://www.awe.gov.au/biosecurity-trade/import/goods/food/inspection-compliance/inspection-scheme

Food Control Order 2019[22]*,* sets compliance requirements for imported food.

On request from DAWE, FSANZ provides advice about whether imported food may pose a medium-to-high risk to public health. Based on this advice, the Minister for Agriculture, Water and the Environment may classify imported food in the *Imported Food Control Order* as 'risk' food. Risk classified imported food requires stricter border controls than other classes of imported food. For example, risk food may require higher inspection rates, testing for particular hazards or specified food safety management certification. Risk foods include horticultural produce such as, berries that are ready-to-eat, peanuts and pistachios, pomegranate arils that are ready-to-eat, and sesame seeds.

Any food which is not classified as a risk food is automatically classified as a 'surveillance' food. Surveillance food is randomly referred to the IFIS, with five per cent of surveillance food being assessed at the border against a selection of standards from the FSANZ Code and also the advice provided in FSANZ's Imported Food Risk Statements. This selection may vary over time to ensure compliance against different standards. Under the *Imported Food Control Act 1992*, importers are responsible for ensuring that all food imported into Australia complies with the relevant standards in the Code.

Information about import requirements is available on the DAWE[23] website.

Biosecurity import requirements focus on preventing the introduction and spread of pests and diseases which affect agriculture (rather than humans).

2.6 International requirements

There is considerable variation in the legislation applicable to horticultural production internationally. Regulatory requirements in New Zealand, the United States, Europe and Canada are discussed below.

2.6.1   New Zealand

The New Zealand Ministry for Primary Industries (MPI)[24] regulates food through the *Food Act 2014*[25] and the *Food Regulations 2015*[26]. Under these instruments food businesses that are considered to pose a higher food safety risk have more stringent requirements and checks than businesses considered lower risk. The Act focusses on the food production process rather than the premises on which the food is made.

There are two food safety measures under the *Food Regulations 2015*, tiered according to risk: food control plans and national programs. Food control plans are mandatory for businesses making or selling higher-risk foods, to manage food safety on a day-to-day basis. National programs are sets of food safety rules that apply to medium- and low-risk businesses.

Food control plans are written plans that identify a food business's food safety risks and outline steps needed to manage those risks, to ensure food is safe. Some food control plan templates (section 40 templates) relevant to horticulture products have been developed by industry and approved by MPI. These templates include (but are not limited to):
- Global Good Agricultural Practice (GLOBALG.A.P)
- New Zealand Good Agricultural Practice (NZGAP)

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[22] Available at: https://www.legislation.gov.au/Details/F2019L01233
[23] See: http://www.agriculture.gov.au/import
[24] See: https://www.mpi.govt.nz/food-safety/food-act-2014/
[25] Available at: http://www.legislation.govt.nz/act/public/2014/0032/75.0/DLM2995811.html
[26] Available at: http://legislation.govt.nz/regulation/public/2015/0310/latest/DLM6684211.html

- British Retail Consortium (BRC) – for fresh produce only.

Businesses operating with a national program do not require a food control plan. However, a business may elect to have a food control plan to comply with food safety laws and ensure food is safe and suitable. National programs do require:
- record keeping to show the business is selling safe food
- registration of business details with the local council or with MPI
- one or more visits from a verifier recognised by MPI.

There are three levels of national programs based on the food safety risk of the activities a business does. Horticulture is included under National program 1, which is for lower food safety risk activities including:
- extracting or packing honey
- growing or packing fruit, vegetables or other horticultural products
- making sugar molasses, syrups or related products
- selling tea, coffee, hot chocolate and packaged shelf-stable food only
- selling packaged ice creams, ice blocks or similar items only
- storing or transporting food only.

2.6.2   United States

The United States Food and Drug Administration[27] (FDA) regulates food safety in the United States through the *Food Safety Modernisation Act 2011*[28] (FSMA). The Act provides legislated prevention-based controls across the food supply. It aims to improve the approach to food safety from a reactive system responding to foodborne illness outbreaks, to a system that prevents outbreaks. Legislation requires food facilities to evaluate operational hazards, implement and monitor measures to prevent food contamination, and have a plan in place to take necessary corrective actions.

The FSMA has seven major rules that mandate specific actions to prevent food contamination at particular points in the supply chain. These rules cover:
- produce safety
- prevention controls for human food
- prevention controls for animal food
- foreign supplier verification programs
- accreditation of third-party auditors
- protection of food from intentional adulteration
- sanitary transportation of human and animal food.

The Final Rule on Produce Safety[29] outlines evidence-based minimum standards for safe growing, harvesting, packing and holding of fruits and vegetables grown for human consumption. The standards consider naturally occurring hazards as well as hazards introduced either intentionally or unintentionally. They address:
- water quality and testing
- biological soil amendments, including raw manure and stabilised compost
- requirements to prevent contamination of sprouts
- domesticated and wild animals in growing areas
- worker training, health and hygiene

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[27] See: https://www.fda.gov/food/guidance-regulation-food-and-dietary-supplements/food-safety-modernization-act-fsma
[28] Available at: https://www.fda.gov/food/food-safety-modernization-act-fsma/full-text-food-safety-modernization-act-fsma
[29] Available at: https://www.fda.gov/food/food-safety-modernization-act-fsma/fsma-final-rule-produce-safety

- prevention of produce contamination from equipment, tools and buildings.

The United States Department of Agriculture (USDA) has aligned their Harmonized Good Agricultural Practices Audit Program[30] with the requirements of the FSMA's Produce Safety Rule. While the requirements are not identical, the relevant technical components in the produce rule are covered in the audit program. USDA audits are not regarded as a substitute for FDA or state regulatory inspections[31].

The FDA has recently put forward Requirements for Additional Traceability Records for Certain Foods (Food Traceability Proposed Rule), to establish additional traceability requirements for those who manufacture, process, pack or hold foods on a Food Traceability List (FTL). The FTL refers to the specific foods listed and to foods that contain the listed foods as an ingredient. The proposed requirements would help the FDA rapidly identify recipients of those foods to help prevent or mitigate foodborne illness outbreaks. Fresh foods included on the proposed list (of relevance to this proposal) are herbs, leafy greens including fresh cut leafy greens, melons, sprouts and fresh cut fruit and vegetables. The proposed rule was in a public consultation phase until 22 February 2021.

2.6.3 European Union

In European Union countries, *Regulation (EC) No 178/2002*[32] General Food Law Regulation sets out the general requirements of food law. It presents the principles, requirements and procedures underpinning food safety matters covering production and distribution.

Food hygiene is specifically addressed in *Regulation (EC) No 852/2004*[33] on the hygiene of foodstuffs. This regulation addresses the hygiene of food at all stages from primary production through to the consumer. *Annex 1 Part A – General hygiene provisions for primary production and associated operations* outlines general provisions for the hygienic production of food including fresh produce. Requirements cover water use, health and hygiene of food handlers, cleaning and sanitising of facilities, equipment and vehicles, animals and pest exclusion, storage of waste, and the use of biocides.

2.6.4 Canada

The Canadian Food Inspection Agency (CFIA) regulates food through the *Safe Food for Canadians Act*[34] (SFCA) and associated *Safe Food for Canadians Regulations*[35] (SFCR). The SFCA provides a framework for the safety of food commodities. The provisions mainly apply to food that is imported, exported and traded inter-provincially. In addition to the SFCA and SFCR, the *Food and Drugs Act*[36] and *Food and Drugs Regulations*[37] may apply.

There are three key elements to the SFCR:
- licensing – authorisation to conduct certain activities through licensing
- preventive controls – principles to be met by all food business and requirements for developing, implementing and maintaining a written preventive control plan
- traceability – requirements for food to be traced one step forward and one step back.

Fresh fruit and vegetable businesses whose sole activities are growing or harvesting are not

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[30] See: https://www.ams.usda.gov/services/auditing/gap-ghp/harmonized
[31] See: https://www.fda.gov/food/food-safety-modernization-act-fsma/frequently-asked-questions-fsma
[32] Available at: https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32002R0178
[33] Available at: https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:02004R0852-20090420
[34] Available at: https://laws-lois.justice.gc.ca/eng/acts/S-1.1/index.html
[35] Available at: https://laws-lois.justice.gc.ca/eng/regulations/SOR-2018-108/index.html
[36] Available at: https://laws-lois.justice.gc.ca/eng/acts/F-27/
[37] Available at: https://laws.justice.gc.ca/eng/regulations/c.r.c.,_c._870/index.html

required to obtain a SFCR licence. However, businesses involved with activities such as packing, labelling and/or exporting fresh fruit and vegetables may require a licence.

Growers and harvesters of fresh fruits or vegetables whose gross annual food sales are more than $100,000 are required to have a written preventive control plan. CanadaGAP, a voluntary food safety program, has been recognised by the CFIA Food Safety Recognition Program. Businesses using CanadaGAP will show compliance with the preventive control plan requirements. However, even if a grower or harvester is CanadaGAP-certified, they may still be required to undergo a CFIA inspection.

Growers or harvesters of fresh fruits or vegetables for interprovincial trade or export are required to prepare and keep traceability records. They must also ensure a label is applied, attached to or accompanies the product they provide to their customers.

2.7 Summary of regulatory requirements

A summary of the existing domestic and international regulatory requirements for food safety of horticultural products is provided below.
- In Australia, there are currently no national regulatory food safety requirements applying to the primary production and processing of horticultural products, except for seed sprouts.
- Based on the definitions in the Code of food business and primary food production, on-farm packing, treating (e.g. washing) or storing of food, where the food handled was grown on the same premises, and is not sold directly to the consumer, is a primary production activity and is not covered by the Chapter 3 food safety standards.
- The primary production and processing of horticultural products is currently regulated to varying degrees by the states and territories. NSW, Queensland and South Australia all have food safety scheme requirements for some aspects of horticulture in regulations under their Food Acts. However the coverage of horticultural products across these schemes is limited to seed sprouts and a few other plant product industries.
- Export requirements mainly focus on facilitating trade.
- Biosecurity import requirements focus on preventing the introduction and spread of pests and diseases which affect agriculture (rather than humans).
- The Imported Food Inspection Scheme (IFIS) regulates all food imported into Australia. Food is identified as either 'risk' or 'surveillance' food. Horticultural products (of relevance to this proposal) which are managed by IFIS as risk food are limited to berries ready-to-eat.
- International legislation applicable to the primary production and processing of horticultural products varies considerably.

3 Non-regulatory measures

Non-regulatory measures addressing food safety in horticultural produce in Australia include food safety schemes, codes of practice and other guidance. Examples of these measures are described below.

3.1 Food safety schemes

Food safety schemes are highly prescriptive schemes that aim to ensure the safety of food during certain stages of production, packing, processing, transport, manufacture, wholesale and retail sale or food service. Horticultural businesses that sign up to a food safety scheme agree to comply with requirements on how produce is grown, packed, prepared and

distributed. Compliance with a food safety scheme is usually certified through an audit by a third-party auditor.

From a regulatory perspective, signing up to these schemes is voluntary. However, there are 'mandatory' industry-set requirements to have a food safety scheme in operation for supply into most market channels. Subsequently, a significant proportion of produce is grown under these schemes.

3.1.1 Previous review of food safety schemes

In 2012, TQA Australia reviewed industry food safety schemes[38] for proposal P1015. Their report, *Review of Food Safety Systems in Australian Horticulture*, includes nine food safety schemes believed to be the most widely accepted third-party audited systems in the Australian horticulture industry at that time.

The food safety schemes reviewed were:
- BRC Global Standard for Food Safety – Issue 6 (July 2011)
- Coles Supplier Requirements – Food (CSR-FV3 May 2011)
- Freshcare Code of Practice - 3rd Edition (July 2009)
- Global G.A.P Integrated Farm Assurance – Version 4.0 (Mar 2011)
- Salad GAP – Version 1.1 (September 2008)
- SGS HACCP – Client Audit Checklist Version 2.7 (19/06/2011)
- SQF2000 Code – 6th Edition August 2008 – Amended July 2010 (Level 3)
- SQF1000 Code – 5th Edition August 2009 – Revised January 2010 (Level 3)
- Woolworths Quality Assurance – Primary Production – Produce – Version 7 (January 2011).

The review had two components. The first part attempted to determine the level of participation in these food safety schemes. However, there were difficulties in determining the number of horticultural producers in Australia, and obtaining information from all system owners and certification bodies. Another issue was that many producers maintain certifications to multiple systems. Available information provided an estimate that 70-80% of horticultural produce in Australia was grown under a scheme that includes food safety control measures.

The second part of the review examined food safety elements in the nine selected schemes. These elements included, for example, control of inputs, control of chemical use and personal hygiene. The applicability of each system across the food supply chain and the requirements of each system in respect to the food safety elements are outlined in Annex 2.

3.1.2 Current food safety schemes

The main food safety schemes currently in use are the Harmonised Australian Retailers Produce Scheme (HARPS) and four schemes internationally benchmarked to the Global Food Safety Initiative (GFSI). These schemes are outlined below and further details of their requirements are in Annex 3.

3.1.2.1 Harmonised Australian Retailer Produce Scheme

HARPS[39] is a food safety scheme that launched in 2016 and is administered by the Produce Marketing Association (PMA) Australia New Zealand. It includes 90 harmonised requirements consolidated by the five major retail chains in Australia (ALDI, Coles, Costco,

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[38] Available at: http://www.foodstandards.gov.au/code/proposals/Pages/proposalp1015primary5412.aspx
[39] See: https://harpsonline.com.au/

Metcash (IGA) and Woolworths) and one of four GFSI benchmarked schemes (see below), chosen by the produce business. This combined structure enables businesses to complete a single audit, rather than having to comply with multiple standards.

HARPS applies only to whole fruit, whole vegetables and nuts in shells. It is a voluntary scheme for businesses that:
- grow produce for retail sale
- pack produce for retail sale
- operate as an aggregator, distributor, broker or agent supplying produce for retail sale
- are a direct supplier, a subcontract supplier or a co-packer.

There were 900 HARPS-approved growers, suppliers and ancillary suppliers as of April 2018.

Of the 18 sections that make up HARPS, 14 relate specifically to food safety, and four are regulatory elements relating to trade and legal compliance. Although most sections are addressed in the benchmarked schemes, HARPS elements from the retailers are more prescriptive. For example, there are additional requirements relating to foreign object management and labelling and management of weights in line with legal requirements.

3.1.2.2 Global Food Safety Initiative

The international body GFSI[40] was established in 2000 and one of its primary aims is to standardise food safety elements based on best practice. The GFSI is managed by the industry network The Consumer Goods Forum.

The GFSI has developed international food safety benchmarking requirements. These requirements are not a food safety standard but rather a tool that can help determine equivalency between food safety schemes. A GFSI benchmarked standard represents global best practice in food safety management. A primary producer cannot be certified against the GFSI itself. Instead, food safety schemes can be benchmarked to the GFSI standard and may be regarded as equivalent.

The current version of GFSI benchmarking requirements is version 2020, released in February 2020. It covers the entire supply chain and includes new elements on:
- food safety culture
- compulsory testing of the traceability system
- product development
- regular site and equipment inspection
- controls of intakes
- reviewed scope numbering and definitions in alignment with ISO 22000.

The GFSI requirements are adopted into major food safety schemes used by horticulture businesses in Australia (see next section). FSANZ reviewed the GFSI requirements against every step of primary production including growing, harvesting, processing, packing and distribution. We investigated control measures set out by GFSI against the main horticulture risk factors identified in our risk assessment of P1052 (Supporting Document 2). Our analysis (see Annex 4) indicates that prescribed GFSI control measures align well with our identified risk factors, including traceability. That is, there appears to be no significant gaps in the GFSI requirements for horticultural production and processing in the Australian context. However, the effectiveness of GFSI requirements has not been assessed in this proposal.

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[40] See: https://mygfsi.com/

3.1.2.3　GFSI-benchmarked schemes in Australia

There are four main food safety schemes used in Australia that are benchmarked to GFSI requirements and linked to HARPS. These include:
- BRC Global Standard for Food Safety – Issue 8
- SQF Food Safety Program – Edition 9
- GLOBALG.A.P. Integrated Farm Assurance Standard – Version 5.3
- Freshcare Food Safety and Quality Standard – Edition 4.2.

These schemes are non-regulatory but highly prescriptive and provide various levels of coverage for risk controls across the supply chain. Horticulture businesses that sign up for a food safety scheme agree to comply with food safety requirements that are verified and certified through a third-party auditor.

While many horticulture businesses operate under a GFSI-benchmarked scheme, the exact proportion of industry covered is unclear. Previous research conducted in 2012 (see Section 3.1.1) estimated that 70-80% of horticultural produce produced in Australia was grown under an industry-owned food safety scheme. This may not be a true representation of the current situation.

2019 social research conducted by Agriculture Victoria surveyed 556 growers. Of these, 138 were growers of produce in the scope of that research. Of the 138 growers, 53% reported using a third party food safety scheme, with 73% reporting they used Freshcare.

A summary of the four main food safety schemes is provided below. The requirements of each of the food safety schemes are highlighted in Annex 3 – Food Safety Scheme Requirements.

3.1.2.3.1　*BRC Global Standard for Food Safety*

BRC Global Standard for Food Safety (BRCGS) provides global standards on areas including food safety, packaging, storage and distribution and consumer products. The BRCGS[41] was first developed in 1998 and was the first food safety scheme to be benchmarked by the GFSI. The current version is Issue 8.

The standard is based on HACCP principles. It sets out required food safety, quality and operational criteria for the manufacture, processing and packing of:
- processed foods, both own brand and customer branded
- raw materials or ingredients for use by food service companies, catering companies and/or food manufacturers
- primary products such as fruit and vegetables
- pet foods for domestic animals.

3.1.2.3.2　*SQF Food Safety Program*

The SQF Food Safety Program[42] is a HACCP-based scheme developed in Australia in 1994. It has been GFSI-benchmarked since 2004. The program is owned and managed by the Food Marketing Institute. The current Edition 9 was released in October 2020 with audits commencing from 24 May 2021. It consists of the following segments:
- SQF Food Safety Code for Primary Plant Production
- SQF Food Safety Code for Primary Animal Production
- SQF Food Safety Code for Aquaculture

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[41] Available at: https://www.brcgs.com/brcgs/food-safety/
[42] Available at: https://www.sqfi.com/what-is-the-sqf-program/sqf-food-safety-program/

- SQF Food Safety Code for Food Manufacturing
- SQF Food Safety Code for Animal Product Manufacturing
- SQF Food Safety Code for Animal Feed Manufacturing
- SQF Food Safety Code for Pet Food Manufacturing
- SQF Food Safety Code for Dietary Supplement Manufacturing
- SQF Food Safety Code for Storage and Distribution
- SQF Food Safety Code for Manufacturing of Food Packaging
- SQF Food Safety Code for Food Retailing
- SQF Food Safety Code for Food Catering and Foodservice

The codes for primary plant production, manufacturing and storage and distribution all contain elements relevant to primary production and processing of horticultural products.

3.1.2.3.3   *GLOBALG.A.P. Integrated Farm Assurance Standard*

The GLOBALG.A.P. Integrated Farm Assurance Standard[43] addresses good agricultural practices for agriculture, aquaculture, livestock and horticulture production. It also covers aspects such as chain of custody and compound feed manufacturing. This GLOBALG.A.P. standard was first benchmarked to the GFSI in 2013. The current version 5.3 was published in February 2020. It consists of general requirements and three modules of control points and compliance criteria (CPCC).
- All Farm Base Module - consisting of all requirements that producers must first comply with to gain certification.
- Scope Module – defining criteria based on different food production sectors: crops, livestock and aquaculture.
- Sub-scope Module – covering requirements for a particular product or different aspect of the food production and food supply chain; for example, fruit and vegetables, tea, or flowers and ornamentals.

Businesses must comply with all relevant modules. For example, a strawberry grower must comply with the All Farm Base CPCC, the Crops Base CPCC and the Fruit and Vegetables CPCC.

3.1.2.3.4   *Freshcare Food Safety and Quality Standards*

Freshcare is a not-for-profit company limited by guarantee and is supported by 28 horticulture industry peak bodies in Australia. There are five standards that make up the suite of Freshcare Standards[44]. These are:
- Food Safety and Quality (on-farm)
- Food Safety and Quality (supply chain)
- Environmental (on-farm)
- Environmental – Viticulture (wine grape production only)
- Environmental – Winery (wineries only).

Freshcare's Food Safety and Quality (FSQ) (on-farm) standard achieved GFSI benchmarking in January 2020, with public notification to industry by GFSI in February 2020. Benchmarking of FSQ standard (supply chain) is expected to follow. HARPS accepts the Freshcare FSQ standards as a benchmarked scheme. Freshcare also meets international requirements as a GFSI-benchmarked scheme. Freshcare is working with GLOBALG.A.P to benchmark against their standard for specific sector needs.

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[43] Available at: https://www.globalgap.org/uk_en/for-producers/globalg.a.p./integrated-farm-assurance-ifa/
[44] Available at: https://www.freshcare.com.au/

The Freshcare FSQ standards are developed based on Codex HACCP principles, good agricultural practice and good hygiene practice. They use the Guidelines for Fresh Produce Safety (see section 3.2.1) as a reference resource that supports the implementation of on-farm and supply chain standards. Freshcare holds approximately 4000 certificates for their FSQ standards.

The current FSQ On-farm Standard Edition 4.2 (FSQ4.2) was released in November 2020, with audits beginning 3 May 2021. It identifies good agricultural practices required to:
- identify and assess the risk of food safety hazards that may occur during land preparation, growing, harvesting and packing of fresh produce
- prevent or minimise the risk of food safety hazards occurring
- prepare produce to customer specifications
- identify, trace and withdraw/recall produce
- manage staff and documentation
- review compliance.

The FSQ Supply Chain Standard Edition 1 (SC1) was released in June 2018. It addresses food safety and quality compliance for businesses involved with:
- packing and handling (including pre-pack/re-pack)
- storage
- ripening
- transport and distribution
- wholesale
- brokerage and virtual brokerage
- provedore.

3.1.3   Summary of the major food safety schemes

Key messages from the above review of the major food safety schemes in Australia:
- Primary producers can elect to sign up to voluntary food safety schemes whereby they are audited by a third party against specified requirements.
- The effectiveness of these food safety schemes has not been assessed in this paper.
- HARPS provides a harmonised standard used by the five major retailers in Australia. In conjunction with a base benchmarked scheme, HARPS enables growers and packers to complete a single audit rather than comply with different requirements for the major retailers.
- Base schemes associated with HARPS are GFSI benchmarked, meaning they represent global best practice in food safety management.
- The GFSI-benchmarked food safety schemes provide varying degrees of coverage across the supply chain, as identified in Table 1. Although there are less schemes used now than in 2012, there is still similar coverage across the supply chain.
- Not all food safety schemes reviewed in this paper address the same requirements, but this may be explained by the extent of their supply chain coverage. Information on the requirements of each of the GFSI-benchmarked food safety schemes reviewed is provided in Table 2.

Table 1: Applicability of major food safety schemes across the food supply chain

Food Safety Scheme	Primary producer	Transport [a]	Packer	Processor	Transport [b]	Food manufacturer	Wholesaler	Retailer / Food service
BRC Global Standard for Food Safety – Issue 8	✗	✗	✓	✓	✓	✓	✗	✗
SQF Food Safety Program – Edition 9	✓	✓	✓	✓	✓	✓	✓	✓
GLOBALG.A.P. Integrated Farm Assurance – Standard V5.3	✓	✓	✓	✗	✗	✗	✗	✗
Freshcare Food Safety and Quality On-Farm Standard – FSQ4.2	✓	✓	✓	✗	✗	✗	✗	✗
Freshcare Food Safety and Quality Supply Chain Standard – SC1	✗	✗	✓	✗	✓	✗	✓	✗

a Transport from primary producer to packer/processor
b Transport from packer/processor to distribution centre/wholesaler/retailer/storage

Table 2: Topics covered by major food safety schemes

Food safety scheme	Scope and commitment	Documentation	Training	Internal audit and corrective action	Customer requirements/ Product identification	Hazard analysis	Growing site	Planting materials	Chemicals	Fertilisers and soil	Water	Allergens	Premises, facilities, equipment, tools, packaging and vehicles	Animals and pests	People	Suppliers	Food defence and food fraud	Product identification and traceability	Incident management, recall and withdrawal
BRC Global Standard for Food Safety – Issue 8	✓	✓	✓	✓	✓	✓	×	×	✓	×	×	✓	✓	✓	✓	✓	✓	✓	✓
SQF Food Safety Program – Edition 9	✓	✓	✓	✓	✓	✓	✓	×	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
GLOBALG.A.P. Integrated Farm Assurance – Standard V5.3	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	×	✓	✓	✓
Freshcare Food Safety and Quality – On-farm Standard - FSQ4.2	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Freshcare Food Safety and Quality – Supply Chain Standard – SC1	✓	✓	✓	✓	✓	✓	×	×	✓	×	✓	✓	✓	✓	✓	✓	✓	✓	✓

3.1.4   Other food safety schemes in Australia

Other food safety schemes operating in Australia, which are not benchmarked to the GFSI, include:
- The Coles Supplier Requirements – Food, which are requirements for suppliers of Coles-branded products that are audited by a third party.
- The Woolworths Supplier Excellence Program – Food, which outlines safety and quality requirements for suppliers of fresh food products to Woolworths.
- SGS certification, which involves HACCP audits that focus on management of hazards affecting food safety and hygiene during the food production process.

3.1.5   Industry requirements for food safety schemes

3.1.5.1   Retailer requirements

All major Australian food retailers require suppliers to provide a certificate that demonstrates they are operating under a GFSI-benchmarked food safety scheme. Certification is required for both direct and indirect supply to retail.

3.1.5.2   Horticulture Produce Agreements

The *Competition and Consumer Act 2010*[45] prescribes the Horticulture Code of Conduct[46] (the Horticulture Code) for growers and traders of horticultural produce. Growers and traders must have a commercial written contract, called a Horticulture Produce Agreement[47] (HPA). Trading horticulture produce without a HPA is prohibited. Each HPA is negotiated between the grower and the wholesaler. The standard HPA template, developed by Fresh Markets Australia (FMA), includes a clause for a GFSI-benchmarked food safety plan to be in operation. However, there are no mandated food safety requirements.

3.2   Guidance documents

Guidance documents have been developed for horticultural produce in Australia, although the emphasis on food safety varies. The *Guidelines for Fresh Produce Food Safety 2019* and *Melon Food Safety Best Practice Guide* do focus on food safety, including identifying and mitigating microbiological hazards. The *Blueberry Code of Conduct* and the *Australian Strawberry Good Practice Guide 2018* focus more on the operational aspects of growing.

An international document with significant emphasis on food safety practices is the Codex *Code of Hygienic Practice for Fresh Fruits and Vegetables*. It covers general hygienic practices from primary production to consumption of fresh fruits and vegetables. These documents are discussed in further detail below.

3.2.1   Fresh Produce Guidelines

The *Guidelines for Fresh Produce Food Safety 2019*[48] are developed by the Fresh Produce Safety Centre Australia New Zealand with contributions from Produce Marketing Association Australia New Zealand Ltd (PMA-ANZ). The guidance is intended for fresh produce businesses right across the supply chain involved in growing, packing, storing, ripening and transporting produce.

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[45] Available at: https://www.legislation.gov.au/Series/C2004A00109
[46] Available at: https://www.legislation.gov.au/Details/F2017L00302
[47] Available at: https://www.accc.gov.au/business/industry-codes/horticulture-code-of-conduct/horticulture-produce-agreements
[48] Available at: https://fpsc-anz.com/food-safety-guidelines-2019/

The guidelines cover fruit, vegetables, herbs, fungi and nuts. Descriptions and advice are provided on:

- types of hazards (microbial, chemical or physical) that can contaminate fresh produce and their sources
- preparing flow charts of processes and inputs
- assessing risks and implementing controls to avoid contamination and reduce risks
- allergens and how they may occur in fresh produce
- responsibilities regarding traceability
- where, when and how often to test for contamination and how to interpret results.

The PMA-ANZ has also produced a series of simple fact sheets[49] on food safety issues tailored to the fresh produce industry.

3.2.2   Melon Best Practice Guide

Melon Food Safety: A Best Practice Guide for Rockmelons and Speciality Melons 2019[50] is produced by the NSW Department of Primary Industries with funding from Hort Innovation. The guide takes a preventative approach to food safety and addresses preharvest and postharvest handling. The focus is on reducing microbial food safety risk.

The guide covers 'melons', referring to rockmelons, honeydew melons, galia melons, horned melons, charentais melons, korean melons, hami melons and piel de sapo. Guidance is not provided on watermelons or pre-cut melons.

Topics covered include:

- managing preharvest microbial food safety risks in melons
- managing microbial food safety risks when harvesting melons
- managing postharvest microbial food safety risks in melons
- sanitisers, postharvest fungicide treatment and cold storage
- pack house environment control and monitoring
- transport and distribution
- supermarkets, wholesalers and retailers
- traceability and product recalls
- developing standard operating procedures.

3.2.3   Blueberry Code of Conduct

The Blueberry Code of Conduct[51] was developed by the Australian Blueberry Growers Association to promote sustainable farming practices, safe use of materials used in growing and harvesting, and provision of a safe working environment. It is not intended as a definitive guide; it does not have a food safety or technical focus.

The Blueberry Code of Conduct provides information on:

- planning and establishing a commercial blueberry development (including licensing, land development controls, water availability, infrastructure and site development and design)
- operation and maintenance (including irrigation and water use, soil conservation, chemical and fertiliser use, waste, workplace health and safety and biosecurity)
- harvest (including field, packing, transport and cool chain and quality assurance)

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[49] Available at https://www.pma.com/global-pma/anz/news/2020/food-safety-101-series
[50] Available at: https://www.dpi.nsw.gov.au/__data/assets/pdf_file/0020/1179011/Melon-food-safety-best-practice-guide.pdf
[51] Available at: https://berries.net.au/home/about/blueberries/abga/

- workforce management.

The document also provides a self-audit checklist to show growers what, at a minimum, they should be considering in their practice.

3.2.4 Strawberry Good Practice Guide

The *Australian Strawberry Good Practice Guide 2019*[52] is produced by Strawberry Innovation with funding from Hort Innovation. It provides best practice advice for strawberry producers including management of:
- land and soil – to improve soil performance and minimise soil loss and degradation
- water – to maximise water use efficiency and maintain water quality on-farm and downstream
- nutrients – to maintain productive capacity of the soil without detriment to the environment
- pests – to manage established pests in a cost-effective and environmentally and socially responsible way
- postharvest handling of strawberries – to maintain fruit quality and maximise shelf life.

3.2.5 Codex standards for fresh fruits and vegetables

The Codex Alimentarius Commission (Codex) is the international food standards setting body established in the United Nation's Food and Agriculture Organization and the World Health Organization. Codex develops international food standards, guidelines and codes of practice contributing to the safety, quality and fairness of food trade.

Codex has established standards for horticultural produce that can be divided into three groups:
- Quality standards, for example the Codex Standard for Mangoes (Codex Stan 184-1993).
- Processed horticultural product standards, for example the Codex Standard for Quick Frozen Blueberries (CXS 103-1981).
- Food safety standards, for example Code of Hygienic Practice for Fresh Fruit and Vegetables (CoHP FFV, CRC/RCP 53-2003) and Code of Practice for Packaging and Transport of Fresh Fruit and Vegetables (CXC 44-1995)

Quality and processed product standards will not be discussed further in this document.

The CoHP FFV for fruits and vegetables provides a general framework of recommendations that can be uniformly applied across the horticulture sector[53]. It covers general hygienic practices from primary production to consumption and in particular for fresh fruits and vegetables intended to be consumed raw. The CoHP FFV applies to produce grown in open or protected systems and focusses on the prevention and control of microbiological hazards.

The CoHP FFV contains annexes with additional recommendations for the following produce:
- *Annex I: Ready-to-eat, fresh, pre-cut fruits and vegetables* – applies to any fruit or vegetable that is normally eaten in a raw state, intended for direct human consumption without any further microbiocidal steps. This may include any fruit or vegetable that has been washed, peeled, cut or otherwise physically altered from its original form but remains in the fresh state.

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[52] Available at: https://www.horticulture.com.au/growers/help-your-business-grow/research-reports-publications-fact-sheets-and-more/australian-strawberry-good-practice-guide/
[53] Available at: http://www.fao.org/fao-who-codexalimentarius/codex-texts/codes-of-practice/en/

- *Annex II: Sprout production* – applies to primary production of seeds for sprouting and the production of sprouts for human consumption.
- *Annex III: Fresh leafy vegetables* – includes all vegetables of a leafy nature where the leaf is intended to be consumed, including but not limited to: all lettuce, spinach, cabbage, chicory, endive, radicchio and fresh herbs such as coriander, basil, betel leaf, curry leaf, fenugreek leaf, Colocasia leaves and parsley.
- *Annex IV: Melons* – including whole and/or pre-cut cantaloupe (also known as muskmelons and rockmelons), watermelon and honeydew and other varieties of melons.
- *Annex V: Berries* – all edible varieties of berries, including but not limited to: strawberries, raspberries, blackberries, mulberries, currants, gooseberries and ground cherries. For wild-berries, only the measures for handling and post-harvest activities apply.

The CoHP FFV and its annexes were informed by a risk-ranking approach (published in 2008) that grouped fresh fruits and vegetables into three priority areas:
- Priority 1: leafy green vegetables
- Priority 2: berries, green onions, melons, sprouted seeds, tomatoes
- Priority 3: carrots, cucumbers, almonds, baby corn, sesame seeds, onion and garlic, pawpaw, celery and maimai.

3.3 Food safety culture

Food safety culture in a food business is how everyone (owners, managers and employees) thinks and acts in their daily job to make sure that the food they produce or serve is safe. Whatever food safety processes may be in place, safety of food ultimately depends on the behaviour of the people in the business.

A strong food safety culture is achieved when people understand the importance of making safe food and commit to doing whatever it takes, every time. This requires:

- Strong leadership – owners and senior leaders show the way (vision), openly commit to making safe food a top priority throughout the business.
- Committed managers – managers show their commitment to food safety through dedicating time and effort. They encourage, listen to and act on feedback from employees that identifies problems and successes, suggests better practices.
- Everyone contributing – everyone in the business believes making safe food is important and everyone plays a defined role.
- Everyone accountable – everyone understands that they are held responsible for their part in ensuring food is safe.
- Knowing and acting – everyone has the right knowledge and skills, and apply these to make sure things are correctly done, every time. Correct behaviours are encouraged and supported.
- Continual improvement – proactively monitoring what goes on, reviewing it, looking for ways to improve.

A strong positive culture can significantly improve food safety and productivity performance. A proactive focus on food safety means issues can be identified and rectified or prevented promptly. Raised awareness and commitment to food safety across the business reduces its risk. Production of safe food means consumers are protected from foodborne illness. Businesses also benefit from preventing incidents that could cause reputational damage and financial loss.

3.3.1 Global, international and national focus on food safety culture

Food safety culture is being incorporated as a formal element or requirement in global and international standards, strategies and regulation including:
- the overarching General Principles of Food Hygiene of the Codex Alimentarius Commission, the global standard-setting body (September 2020)
- draft revised European regulation on food hygiene (EC Regulation No 852/2004)
- food safety strategies of the United Kingdom Food Safety Authority and the US Food and Drug Administration
- the Global Food Safety Initiative (GFSI) Benchmarking Requirements (Version 2020), setting a precedent for many other industry standards
- other global industry standards on food safety such as BRC and SQF.

A common element in each of these documents is management commitment to food safety.

3.3.2 Food safety culture initiatives in Australia

Australia's food regulation system has identified food safety culture as a core focus in the national Foodborne Illness Reduction Strategy 2018-2021+[54]. To date, work on culture improvement has mostly focused on the food service sector through the:
- introduction of additional food safety management tools for high-risk food service businesses (through FSANZ's Proposal P1053)
- development and trial of national resources to assist authorised officers improve food safety culture in small businesses (initially, businesses who make and serve raw or lightly cooked egg products, and businesses handling allergens).

FSANZ manages a food safety website (hub), which includes information and introductory resources on food safety culture for use by industry and regulators. These resources include an explanation of what strong culture looks like and a simple questionnaire for businesses to self-assess their culture. FSANZ also publishes a newsletter (Culture Connections[55]) two or three times a year focused solely on food safety culture. It includes latest international developments, new resources and industry case studies.

Within the food industry, major food retailers in Australia have introduced supplier requirements that include management commitment to strengthening food safety culture. Food industry schemes used nationally for quality and safety assurance are adopting similar food safety culture requirements to reflect the international GFSI benchmarking. The Australian Institute of Food Science and Technology and others are currently developing a 'good governance guide' for business owners and boards. This document will likely include helpful background and tips for improving the food safety culture and behaviour in a business.

3.3.2.1 Fresh produce sector initiatives

The Fresh Produce Safety Centre Australia & New Zealand (FPSC-ANZ) and Produce Marketing Association (PMA-ANZ) have taken an active role in promoting food safety culture in the fresh produce sector. Initiatives during 2020 included:
- hosting several webinars on food safety and culture
- FPSC-ANZ hosted a workshop on 1 December 2020 to look at innovations in the audit process, including priorities and actions and a culture element

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[54] Available at: https://foodregulation.gov.au/internet/fr/publishing.nsf/Content/aus-foodborne-illness-reduction-strategy-2018-2021-Jun-2018
[55] Available at: https://mailchi.mp/foodstandards.gov.au/food-safety-culture-connections-autumn-2020#Recipe

- FPSC-ANZ discussions with Hort Innovation on a proposal for the Hort Frontiers Health, Nutrition and Food Safety Fund. The proposal title is *Food Safety Culture: An integrated, tech-based approach to increasing the focus on food safety across all fresh produce businesses and organisations in Australia.* The aim is to drive an improved across-industry food safety culture, extend the adoption of food safety programs in smaller businesses and embed food safety best practice in Australian fresh produce businesses.

The FPSC-ANZ promotes a range of resources for food safety culture including resources to measure and monitor culture, on their website[56]. These include industry blogs promoting food safety culture by the Australian Melon Association[57] and Food Innovation Australia[58].

The FPSC-ANZ also has several research initiatives underway related to food safety culture. They ran a survey in 2019 of the fresh produce industry in Australia and New Zealand and found 90% of businesses believed they had strong food safety culture. However, respondents commented that production pressure takes priority over procedures that address food safety. According to the FPSC website[59]: 'The Centre is collaborating with the Australian dairy and red meat sectors to undertake more work in this area to help businesses realise the opportunities of robust food safety culture and its relationship to business continuity, along with creating consistent language and a how-to can-do food safety culture model.'

3.4   Melon industry projects

The Australian melon industry is involved in several initiatives with potential to improve food safety in the sector.

Following the 2018 outbreak of listeria associated with rockmelons, the industry funded a project through Hort Innovation to strengthen food safety measures. The project involved NSW Department of Primary Industries (DPI) working with all Australian rockmelon growers. Activities included:
- five food safety workshops delivered to growers around the country
- one-on-one food safety consultations with growers, managers and key farm staff
- on-site reviews of food safety systems in pack houses
- development of a melon best practice guide (see 3.2.2 above) and a 'toolbox' for growers including risk assessment templates, training guides, food safety posters and record sheets
- a food safety helpdesk service.

A subsequent project is taking a similar approach with major watermelon growers.

A national traceability program tracking horticultural produce using QR codes is currently being piloted with melons. The pilot is co-funded by Hort Innovation and involves NSW DPI partnered with Australian technology company FreshChain. The program aims to provide immediate information through a mobile phone scan on the origin, freshness and safety of melons. Consumers will be able to connect with growers, packers, exporters, regulators and retailers of the product. Horticultural businesses, especially melons, berries and leafy vegetables, are expected to participate in a broader program for trialling traceability in the domestic and export market supply chains.

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[56] Available at: https://fpsc-anz.com/food-safety-culture/
[57] Available at: https://fpsc-anz.com/2020/06/30/the-challenge-of-a-food-safety-culture/
[58] Available at: https://fpsc-anz.com/2020/09/14/food-safety-governance/
[59] Available at: https://fpsc-anz.com/food-safety-culture/

The Australian melon industry requires workers to complete pre-employment training on farm health and safety. On successful completion workers are provided with the 'melon card' and a registration number, valid for 12 months. This training is largely focused on workplace safety but includes some basic points on personal health and hygiene.

4   Conclusion

This paper has outlined the current regulatory and non-regulatory food safety measures for horticultural produce. It has identified that, other than for seed sprouts, there are no national regulatory food safety requirements that apply to the primary production and processing of horticultural products in Australia. However, some jurisdictions (NSW, Queensland and South Australia) have regulatory requirements for certain horticultural products.

The Imported Food Inspection Scheme regulates all food (including horticultural produce) imported into Australia, checking that it meets Australian requirements for public health and safety and is compliant with Australia's food standards.

Comprehensive but voluntary on-farm food safety schemes are available in Australia that provide guidance on how produce should be grown, packed, prepared and distributed. Many of these are benchmarked to international (GFSI) requirements and include control measures that cover the microbiological risk factors FSANZ identified in this proposal. Schemes used in Australia provide varying degrees of coverage across the supply chain. While they are not mandatory, some retailers may require a primary producer to be audited against one of the schemes in order to supply their product.

In addition to the food safety schemes, guidance documents on the safe production and processing of horticultural products have been developed to assist primary producers. However, the focus on food safety varies within these documents. Some initiatives targeting food safety and traceability have been completed or are being trialled, particularly for melons. Food safety culture initiatives are also expanding, with the growing recognition of the importance of behaviour and commitment to ensuring safe food.

5 Annex 1 – Comparison of state and territory legislation

Table 1-1 below identifies the regulators of food businesses and primary food producers in each jurisdiction. It also compares the definitions of food business and primary food production in each jurisdiction.

Jurisdiction[a]	Food business regulator	Primary food production regulator	Food business definition applied in jurisdiction	Primary food production definition applied in jurisdiction
New South Wales	Food Authority	Food Authority	*Food Act 2003*, s6 Definition of food business is the same as in the Model Food Act with the exception that it does not contain the clarifier that a food business means any business, enterprise or activity (other than a business, enterprise or activity that is primary food production).	*Food Act 2003*, *s7* Definition of primary food production is the same as in the Model Food Act with the exception that the definition does not contain the note about enabling regulations to be made.
Queensland	Qld Health & Local Government	Safe Food Production Queensland	*Food Act 2006*, s13 Definition of food business is the same as in the Model Food Act with the exception that it does not contain the clarifier that a food business means any business, enterprise or activity (other than a business, enterprise or activity that is primary food production).	*Food Production (Safety) Act 2000 (FPS Act)*, s11 Definition of production of primary produce refers specifically to animals, plants or other organisms, or to primary produce, rather than to food. The definition includes specific reference to processes for seafood, crustaceans, dairy produce, smallgoods, meat processing and primary produce intended for consumption by an animal. The definition includes a definition of 'treating'.

Jurisdiction[a]	Food business regulator	Primary food production regulator	Food business definition applied in jurisdiction	Primary food production definition applied in jurisdiction
Victoria	Food Safety Unit, Department of Health and Human Services Victoria	Agriculture Victoria (Sprouts) Other commodities are regulated by either external regulators (PrimeSafe or Dairy Food Safety Victoria) or also by Agriculture Victoria	*Food Act 1984*, s4B Definition of food business is the same as in the Model Food Act.	*Food Act 1984*, s4C Definition of primary food production is the same as in the Model Food Act.
Tasmania	Department of Health	Department of Primary Industries, Parks, Water and Environment	*Food Act 2003*, s6 Definition of food business is the same as in the Model Food Act.	*Food Act 2003*, s7 Definition of primary food production contains additions to the definition in the Model Food Act. In addition to on the premises food was grown, raised, cultivated, picked, harvested, collected or caught, primary food production also includes on premises that are associated with those premises. In addition to what is stated in the definition in the Model Food Act, primary food production does not include the packing or treating of food on premises that are associated with the premises on which it was grown, raised, cultivated, picked, harvested, collected or caught if carried out by a person who has purchased the food, or who is carrying out the packing or treating under contract (not being a contract of employment).

Jurisdiction[a]	Food business regulator	Primary food production regulator	Food business definition applied in jurisdiction	Primary food production definition applied in jurisdiction
				Premises are associated with each other if they form part of a single enterprise.
South Australia	SA Health/ Local Government	Primary Industries and Regions South Australia (Biosecurity SA)	*SA Food Act 2001*, s6 Definition of food business is the same as in the Model Food Act.	*SA Food Act 2001*, s7 Definition of primary food production contains additions to the definition in the Model Food Act. In addition to on the premises food was grown, raised, cultivated, picked, harvested, collected or caught, primary food production also includes on premises that are associated with those premises. In addition to what is stated in the definition in the Model Food Act, primary food production does not include the packing or treating of food on premises that are associated with the premises on which it was grown, raised, cultivated, picked, harvested, collected or caught if carried out by a person who has purchased the food, or who is carrying out the packing or treating under contract (not being a contract of employment). Premises are associated with each other if they form part of a single enterprise.

Jurisdiction[a]	Food business regulator	Primary food production regulator	Food business definition applied in jurisdiction	Primary food production definition applied in jurisdiction
Northern Territory	Department of Health	Department of Health	*Food Act 2004*, s8 Definition of food business is the same as in the Model Food Act.	*Food Act 2004*, s9 Definition of primary food production is the same as in the Model Food Act with the exception that regulations are not referred to in relation to what primary food production does not include.
Western Australia	Department of Health (DOHWA) (dairy PPP; shellfish PPP; Kings Park; Rottnest Island; and Public Hospitals) Local Government (all food businesses in district, except for the business required to register with the DOHWA	DOHWA (dairy and shellfish PPP) Local Government (meat; poultry; egg and egg products; and seed sprouts PPP)	*Food Act 2008*, s4 & s10 Definition of food business is the same as in the Model Food Act. Application of Act to primary food production (1) Parts 6, 8 and 9 do not apply to or in respect of primary food production. (2) The functions conferred on authorised officers by Parts 5 and 7 may be performed in respect of primary food production only — (a) to enable the investigation and prosecution of offences against this Act; or (b) in connection with making or enforcing emergency orders.	*Food Act 2008*, s11 *Food Regulations 2009*, r6 Definition of primary food production is the same as in the Model Food Act with the exception that the definition does not contain the note about enabling regulations to be made.
Commonwealth - Exports	Department of Agriculture - Biosecurity Plant Division	*Export Control Act 1982* *Export Control (Plants and Plant Products) Order 2011*	Export legislation does not cover plant products as a food.	Not defined

Jurisdiction[a]	Food business regulator	Primary food production regulator	Food business definition applied in jurisdiction	Primary food production definition applied in jurisdiction
Commonwealth - **Imports**	Department of Agriculture – Imported Food	*Imported Food Control Act 1992* *Imported Food Control Regulations 2019* *Imported Food Control Order 2019*	Does not define food business. The legislation applies to Australian importers as 'owners' of the food.	Not defined

Table 1-1: Summary of jurisdictions' legislation related to horticulture
a ACT does not have any primary production and processing of horticultural products and therefore is not included.

6 Annex 2 – Food safety scheme requirements at the time of P1015

The 2012 report, *Review of Food Safety Systems in Australian Horticulture,* reviewed nine food safety schemes believed to be the most widely accepted third party audited systems in the Australian horticulture industry at that time. The review outlined the applicability of each system across the food supply chain (Table 2-1) and the requirements of each system in respect to the food safety elements identified (Table 2-2).

Table 2-1: Applicability of systems across the food supply chain

System / code of practice and current version	Primary producer	Transport [a]	Packer	Processor	Transport [b]	Food manufacturer	Wholesaler	Retailer / Food service
Salad GAP – Version 1.1 (September 2008)	✓	✗	✗	✗	✗	✗	✗	✗
Freshcare Code of Practice (3rd Edition – July 2009)	✓	✓	✓	✗	✗	✗	✗	✗
SQF1000 Code – 5th Edition August 2009 – Revised January 2010 (Level 3)	✓	✓	✓	✗	✗	✗	✗	✗
GLOBALG.A.P. Integrated Farm Assurance – Version 4.0 Mar 2011	✓	✓	✓	✗	✗	✗	✗	✗
Additional Coles Supplier Requirements – Food (CSR-FV3 May 2011)[c]	✓	✗	✓	✓	✗	✓	✗	✗
Woolworths Quality Assurance – Primary Production – Produce – Version 7 January 2011	✓	✓	✓	✓	✓	✗[d]	✓	✗
SGS HACCP – Client Audit Checklist Version 2.7 (19/06/2011)	✓	✓	✓	✓	✓	✓	✗	✗
BRC Global Standard for Food Safety – Issue 6 – July 2011	✗	✗	✓	✓	✓	✓	✗	✗
SQF2000 Code – 6th Edition August 2008 – Amended July 2010 (Level 3)	✗	✗	✓	✓	✓	✓	✓	✗

a Transport from primary producer to packer / processor.
b Transport from packer / processor to distribution centre / wholesaler / retailer / storage.
c Suppliers are required to be certified to Coles Requirements in addition to another approved standard such as SQF 2000, Freshcare or BRC.
d Food manufacturers are covered under a different WQA Standard (Manufactured Foods).

Table 2-2: Topics by Food Safety Scheme

Standard name	Regulatory requirements	Approved suppliers	Control of inputs	Good Manufacturing Practices (GMP)	Control of processing / preparation / handling	Calibration	Training	Cleaning schedule / sanitation	Pest control	Personnel hygiene	Control of use of chemicals	Transport	Product recall	Product identification and traceability	Control of storage	Premises construction / maintenance	Control of plant and equipment	Good Agricultural Practices (GAP)	HACCP Plan
Additional Coles Supplier Requirements – Food (CSR-FV3 May 2011)	✓	✓	✓	✓	✓	✓	✓	×	×	×	×	×	×	×	×	×	×	×	×
Salad GAP – Version 1.1 (September 2008)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	×	×	×	×	✓	✓	✓	×
GLOBALG.A.P. Integrated Farm Assurance – Version 4.0 Mar 2011	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	×	×	✓	×
Freshcare Code of Practice (3rd Edition – July 2009)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	×
BRC Global Standard for Food Safety – Issue 6 – July 2011	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	×	✓
SQF2000 Code – 6th Edition August 2008 – Amended July 2010 (Level 3)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	×	✓
SGS HACCP – Client Audit Checklist Version 2.7 (19/06/2011)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
SQF1000 Code – 5th Edition August 2009 – Revised January 2010 (Level 3)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Woolworths Quality Assurance – Primary Production – Produce – Version 7 January 2011	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

7   Annex 3 – Current food safety scheme requirements

The following Table 3-1 identifies at a high-level the requirements of each of the four HARPS base food safety schemes:

- BRC Global Standard for Food Safety - Issue 8[60]
- SQF Food Safety Program - Edition 9[61]
- GLOBALG.A.P. Integrated Farm Assurance Standard – Version 5.3[62]
- Freshcare Food Safety & Quality On-farm and Supply Chain Standards[63]
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Table 3-1

	BRC Global Standard for Food Safety - Issue 8	**SQF Food Safety Program - Edition 9 (Primary Production, Manufacturing and Storage and Distribution Codes)**	**GLOBALG.A.P. Integrated Farm Assurance Standard – Version 5.3**	**Freshcare Food Safety & Quality (On-farm (FSQ4.2) and Supply Chain (SC1) Standards)**
Scope and commitment	• Senior management shall demonstrate commitment to the standard and to continual improvement of food safety and quality management through a documented policy, plan for food safety and quality culture, management review meetings, reporting system and resources. • There shall be a documented organisation structure outlining responsibilities and senior management will ensure employees are aware of their responsibilities.	**Primary production** • A policy statement is prepared and implemented. • Food safety culture and its objectives are established, implemented and communicated effectively to staff. • Senior site management shall prepare, review and implement the SQF system and document the review procedure. • Job tasks, responsibilities, and organisational structure are communicated to the primary and substitute SQF practitioner, who are competent in HACCP-based food safety plans.	• A Food Safety Policy Declaration is completed and signed to reflect the commitment of the product to ensure that food safety is implemented and maintained throughout the production processes.	**On-farm** • Scope of Freshcare certification is documented. • Property areas, infrastructure and activities are identified on a property map. • Roles, responsibilities and organisational structure for workers responsible for food safety and quality management are identified. • Commitment to food safety and quality and Freshcare is documented. **Supply Chain** • Scope of Freshcare certification is documented.

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[60] Available at: https://www.brcgs.com/brcgs/food-safety/

[61]Available at: https://www.sqfi.com/resource-center/sqf-code-edition-9-downloads/

[62] Available at: https://www.globalgap.org/uk_en/for-producers/globalg.a.p./integrated-farm-assurance-ifa/

[63] Available at: https://www.freshcare.com.au/

	BRC Global Standard for Food Safety - Issue 8	SQF Food Safety Program - Edition 9 (Primary Production, Manufacturing and Storage and Distribution Codes)	GLOBALG.A.P. Integrated Farm Assurance Standard – Version 5.3	Freshcare Food Safety & Quality (On-farm (FSQ4.2) and Supply Chain (SC1) Standards)
		• Adequate resources are available and staff training provided to meet food safety objectives and performance measures. • Food safety practices and all applicable requirements of the SQF system are adopted. • Integrity and continued operation of the food safety system is ensured in the event of organisational or personnel changes. • The designated blackout periods are communicated to the certifying body within the specified time period. • The SQF systems are reviewed and documented at least annually, and the senior management is updated at least monthly on implementation and maintenance matters. • Customer complaints are investigated, analysed and root cause established. • Corrective and preventative actions are implemented and records maintained. **Pre-process handling (manufacture)** • A policy statement is prepared and implemented. • Management responsibility shall be identified and recorded.		• Premises, infrastructure and local activities are documented on site maps. • Business organisational structure is defined including workers responsible for management of food safety and quality and reporting relationships of all workers whose roles may affect food safety and quality. • Business commitment to the supply chain standard is documented.

	BRC Global Standard for Food Safety - Issue 8	SQF Food Safety Program - Edition 9 (Primary Production, Manufacturing and Storage and Distribution Codes)	GLOBALG.A.P. Integrated Farm Assurance Standard – Version 5.3	Freshcare Food Safety & Quality (On-farm (FSQ4.2) and Supply Chain (SC1) Standards)
		• Food safety culture and its objectives are established, implemented and communicated effectively to staff. • Senior site management shall prepare, review and implement the SQF system and document the review procedure. • Job tasks, responsibilities, and organisational structure are communicated to the primary and substitute SQF practitioner, who are competent in HACCP-based food safety plans. • Adequate resources are available and staff training provided to meet food safety objectives and performance measures. • Food safety practices and all applicable requirements of the SQF system are adopted. • Integrity and continued operation of the food safety system is ensured in the event of organisational or personnel changes. • The designated blackout periods are communicated to the certifying body within the specified time period. • The SQF systems are reviewed and documented at least annually, and the senior management is updated at least		

	BRC Global Standard for Food Safety - Issue 8	SQF Food Safety Program - Edition 9 (Primary Production, Manufacturing and Storage and Distribution Codes)	GLOBALG.A.P. Integrated Farm Assurance Standard – Version 5.3	Freshcare Food Safety & Quality (On-farm (FSQ4.2) and Supply Chain (SC1) Standards)
		monthly on implementation and maintenance matters. • Customer complaints are investigated, analysed and root cause established. • Corrective and preventative actions are implemented and records maintained. **Storage and distribution** • A policy statement is prepared and implemented. • Food safety culture and its objectives are established, implemented and communicated effectively to staff. • Job tasks, responsibilities, and organisational structure are communicated to the primary and substitute SQF practitioner, who are competent in HACCP-based food safety plans. • Management responsibility shall be identified and recorded. • Senior site management shall review the SQF system and document the review procedure. • Adequate resources are available and staff training provided to meet food safety objectives and performance measures. • Food safety practices and all applicable requirements of the SQF system are adopted.		

	BRC Global Standard for Food Safety - Issue 8	SQF Food Safety Program - Edition 9 (Primary Production, Manufacturing and Storage and Distribution Codes)	GLOBALG.A.P. Integrated Farm Assurance Standard – Version 5.3	Freshcare Food Safety & Quality (On-farm (FSQ4.2) and Supply Chain (SC1) Standards)
		• Integrity and continued operation of the food safety system is ensured in the event of organisational or personnel changes. • The designated blackout periods are communicated to the certifying body within the specified time period. The SQF systems are reviewed and documented at least annually, and the senior management is updated at least monthly on implementation and maintenance matters. • Customer complaints are investigated, analysed and root cause established. • Corrective and preventative actions are implemented and records maintained.		
Documentation	• The company's processes and procedures to meet the requirements of the standard shall be documented in a food safety and quality manual. • The food safety and quality manual shall be implemented and available to staff in appropriate languages. • The company shall operate an effective document control system and documents shall be stored securely.	**Primary production** • A food safety management system is documented, maintained and made available to relevant staff. • Food safety plans and operating procedures are reviewed, updated and communicated when changes are implemented. All changes are validated, verified, and documented. • Methods and responsibility for maintaining and retaining records	• Records requested during external inspection are accessible and kept for a minimum of two years. • All transaction documentation shall include reference to the GLOBALG.A.P. status and the GGN (GlobalG.A.P number). • The GlobalG.A.P. logo shall be used according to the General Regulations and the Sublicense and Certification Agreement.	**On-farm** • Procedures and work instructions for activities that impact food safety or quality are documented and reviewed. • Records are kept that verify compliance with the Freshcare standard and are kept for minimum time requirements. **Supply Chain** • Compliance with the supply chain standard is verified through

	BRC Global Standard for Food Safety - Issue 8	SQF Food Safety Program - Edition 9 (Primary Production, Manufacturing and Storage and Distribution Codes)	GLOBALG.A.P. Integrated Farm Assurance Standard – Version 5.3	Freshcare Food Safety & Quality (On-farm (FSQ4.2) and Supply Chain (SC1) Standards)
	• Records to demonstrate the effective control of product safety, legality and quality shall be maintained.	are documented and implemented. • Documents are controlled, legible, current, complete for inspections, retrievable and stored appropriately. • Records are suitably authorized, signed and retained for a period specified by the customer or regulation or at a minimum of product shelf life. **Pre-process handling (manufacture)** • A food safety management system is documented, maintained and made available to relevant staff. • Food safety plans and operating procedures are reviewed, updated and communicated when changes are implemented. All changes are validated, verified, and documented. • Methods, frequency and responsibility for verifying, maintaining and retaining records are documented and implemented. • Documents are controlled, legible, complete for inspections, retrievable and stored appropriately. • Records are retained in accordance with customer, legal	• Sales records are available including quantities and conversion ratios and/or loss during handling are calculated and controlled.	relevant documents and records are kept.

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	BRC Global Standard for Food Safety - Issue 8	SQF Food Safety Program - Edition 9 (Primary Production, Manufacturing and Storage and Distribution Codes)	GLOBALG.A.P. Integrated Farm Assurance Standard – Version 5.3	Freshcare Food Safety & Quality (On-farm (FSQ4.2) and Supply Chain (SC1) Standards)
		and regulatory requirements, at a minimum the product shelf life, or established by the site if no shelf life exists. **Storage and distribution** • A food safety management system including all required elements such as specifications, process controls are documented, maintained and made available to relevant staff. • Food safety plans and operating procedures are reviewed, updated and communicated when changes are implemented. All changes are validated, verified, and documented. • Methods, frequency and responsibility for verifying, maintaining and retaining records are documented and implemented. • Documents are controlled, legible, complete for inspections, retrievable and stored appropriately. • Records are retained in accordance with customer, legal, and regulatory requirements, at minimum the product shelf life, or established by the site if no shelf life exists.		

	BRC Global Standard for Food Safety - Issue 8	SQF Food Safety Program - Edition 9 (Primary Production, Manufacturing and Storage and Distribution Codes)	GLOBALG.A.P. Integrated Farm Assurance Standard – Version 5.3	Freshcare Food Safety & Quality (On-farm (FSQ4.2) and Supply Chain (SC1) Standards)
Training	• Documented programs shall be put in place covering the training needs of relevant personnel. • Relevant training and competency assessment shall be in place for personnel engaged in activities relating to critical control points. • All relevant personnel shall receive general allergen training and training on the site's labelling and packing processes. • Records of all training shall be made available. • Staff competencies shall be routinely reviewed.	**Primary production** • Training is provided to staff responsible for the SQF system implementation and maintenance of food safety and regulatory systems. • Training is documented and implemented, including provisions for refresher training. • Training program shall include at a minimum HACCP training including corrective action procedure, personal hygiene, good agricultural practices, and allergen management. • Instructions and training are available in a relevant language. • A training skills register is maintained. **Pre-process handling (manufacture)** • Responsibility for establishing and implementing training needs shall be defined and documented. • Training including HACCP is provided to staff responsible for the SQF system implementation and maintenance of food safety and regulatory systems. • A training program is documented and implemented, including provisions for refresher training. • Training program shall include at a minimum HACCP training	• A record is kept for training activities • Workers handling hazardous substances or operating dangerous or complex equipment have evidence of competence or qualifications.	**On-farm** • Freshcare training is completed by a management representative. • Training is provided to all relevant workers in a relevant language, a record is kept and a review is conducted at least annually or when processes change. **Supply Chain** • Freshcare training is completed by a business representative with day-to-day operational responsibility for the implementation and management of the standard. • Training is provided to all workers complete tasks relevant to the supply chain standard to ensure food safety awareness.

	BRC Global Standard for Food Safety - Issue 8	SQF Food Safety Program - Edition 9 (Primary Production, Manufacturing and Storage and Distribution Codes)	GLOBALG.A.P. Integrated Farm Assurance Standard – Version 5.3	Freshcare Food Safety & Quality (On-farm (FSQ4.2) and Supply Chain (SC1) Standards)
		including corrective action procedure, personal hygiene, good agricultural practices, and allergen management. • In addition, sampling and testing methods, environmental monitoring and tasks identified as critical for maintaining SQF code are included in the training program. • Instructions and training are available in a relevant language. • A training skills register is maintained. **Storage and distribution** • Responsibility for establishing and implementing training needs shall be defined and documented. • Training is provided to staff responsible for the SQF System implementation and maintenance of food safety and regulatory systems. • A training program is documented and implemented, including provisions for refresher training. • Training program shall include at a minimum developing and maintaining food safety plans, corrective action procedure, personal hygiene, good storage and distribution practices, allergen management and tasks		

	BRC Global Standard for Food Safety - Issue 8	SQF Food Safety Program - Edition 9 (Primary Production, Manufacturing and Storage and Distribution Codes)	GLOBALG.A.P. Integrated Farm Assurance Standard – Version 5.3	Freshcare Food Safety & Quality (On-farm (FSQ4.2) and Supply Chain (SC1) Standards)
		identified critical for maintaining SQF code. • Instructions and training are available in a relevant language. • A training skills register is maintained.		
Internal audit and corrective action	• There shall be a scheduled programme of internal audits with specified requirements, carried out by appropriately trained independent auditors. • There shall be a separate programme of documented inspections with specified requirements not less than once per month to ensure the factory environment and equipment are maintained. • Procedures for handling and correcting failures identified in the foods safety and quality management system shall be in place. Non-conformity shall be investigated and recorded. • Procedures for the completion of root cause analysis shall be in place to implement ongoing improvements and to prevent recurrence of non-conformities. • There shall be specified procedures for managing non-conforming products. • There shall be a scheduled programme of documented	**Primary production** • Methods and responsibilities for handling complaints and corrective actions are documented and implemented. • Customer complaint trend data is analysed and records maintained. • Methods, responsibility and criteria for ensuring validation and effectiveness of good agricultural practices, legality of certified products and critical food safety limits are documented, implemented and records kept. • A schedule outlining verification activities is prepared and implemented and records kept. • How corrective actions are determined, implemented, verified are documented and records kept. • A corrective action plan is developed when water does not meet established criteria and standards. • Methods and responsibilities for scheduling and conducting internal audits are documented	• A minimum of one internal self-assessment against the GLOBALG.A.P. standard is conducted. • Effective corrective actions have been taken as a result of non-compliance detected during internal self-assessment or internal produce group inspections. • A complaint procedure is available for issues covered by the GLOBALG.A.P. Standard which ensures complaints are adequately recorded, followed up and actioned.	**On-farm** • Internal audits are conducted to verify compliance. • Corrective Action Record completed for unmet requirements and non-compliance reoccurrences are reviewed. • A management review of compliance is conducted at least annually and a record is kept. **Supply Chain** • Daily start-up checks are conducted by trained workers and records kept. • Monthly facility audits are conducted by trained workers and records are kept. • Internal audits are conducted to verify compliance with the supply chain standard. • Corrective actions are completed for any non-compliance. • A management review of system compliance is conducted at least quarterly and a record is kept.

	BRC Global Standard for Food Safety - Issue 8	SQF Food Safety Program - Edition 9 (Primary Production, Manufacturing and Storage and Distribution Codes)	GLOBALG.A.P. Integrated Farm Assurance Standard – Version 5.3	Freshcare Food Safety & Quality (On-farm (FSQ4.2) and Supply Chain (SC1) Standards)
	product testing with results reviewed regularly to identify trends. • The site shall ensure that a system of validation and ongoing verification of the shelf life is in place. • Pathogen testing shall be subcontracted to an external laboratory. • Routine testing laboratories on a manufacturing site shall be located, designed and operated to eliminate potential risk to product safety. • Laboratory subcontractors shall have recognised laboratory accreditation. • Laboratory results shall be acted upon accordingly.	and implemented. Internal audits are conducted at least annually. Staff are trained in internal audit procedures. Staff conducting internal audits should be independent to the function being audited where practical. • Regular inspections during growing and harvesting, packing of products, plant production, and/or equipment used shall be planned and carried out to verify Good Agricultural/Operating Practices and building/equipment maintenance are compliant to SQF Food Safety Code. **Pre-process handling (manufacture)** • Methods, responsibility and criteria for ensuring effectiveness of applicable elements of the SQF program including good agricultural practices, legality of certified products and critical food safety limits shall be documented and implemented and records maintained. • A verification schedule is implemented. • How corrective actions are determined, implemented and verified are documented and records kept. • Root cause of corrective actions identified, deviations from food		• An incident management plan is prepared to support business continuity.

	BRC Global Standard for Food Safety - Issue 8	SQF Food Safety Program - Edition 9 (Primary Production, Manufacturing and Storage and Distribution Codes)	GLOBALG.A.P. Integrated Farm Assurance Standard – Version 5.3	Freshcare Food Safety & Quality (On-farm (FSQ4.2) and Supply Chain (SC1) Standards)
		safety requirements resolved and recorded. • Methods, responsibility and criteria for sampling, inspecting and/or analysing raw materials, finished product and work-in-progress shall be documented and implemented. • Personnel that conduct environmental or product testing shall participate in a proficiency testing program. • Laboratories shall be accredited. • Records of inspections and analyses shall be maintained. • Methods and responsibility for scheduling and conducting internal audits shall be documented and implemented. Internal audits shall be conducted at least annually. • Staff conducting internal audits shall be trained. • Records of internal audits and inspections shall be maintained. **Storage and distribution** • Methods, responsibility and criteria for ensuring effectiveness of applicable elements of the SQF program shall be documented and implemented and records maintained. • A verification schedule is implemented		

	BRC Global Standard for Food Safety - Issue 8	SQF Food Safety Program - Edition 9 (Primary Production, Manufacturing and Storage and Distribution Codes)	GLOBALG.A.P. Integrated Farm Assurance Standard – Version 5.3	Freshcare Food Safety & Quality (On-farm (FSQ4.2) and Supply Chain (SC1) Standards)
		• How corrective actions are determined, implemented and verified are documented and records kept. • Root cause of corrective actions identified, deviations from food safety requirements resolved and recorded. • Deviations from food safety requirements include customer complaints, non-conformances, withdrawals and recalls. • Methods and responsibility for scheduling and conducting internal audits shall be documented and implemented. Internal audits shall be conducted at least annually and records maintained. • Staff conducting internal audits shall be trained.		
Customer requirements/ Product identification	• Surplus customer-branded products shall be disposed of in accordance with customer-specific requirements. • Product design and development procedures shall be in place for new products or processes and any change to packaging or manufacturing processes to ensure that safe and legal products are produced. • Product labelling shall comply with appropriate legal	**Primary production** • Product development methods are documented, reviewed and implemented by authorised persons. Shelf life, MRLs and customer requirements are validated. Records are kept. • Finished product specifications and process flow are documented and a register maintained. • Non-conforming product is appropriately managed and records of handling kept.	• Product labelling is done according to applicable food regulations in the country of intended sale and any customer specification.	**On-farm** • A copy of written customer product specifications is kept, the product is checked to ensure it meets specifications and a record is kept. • The customer is informed if specifications are not met and an agreed course of action is implemented and recorded. **Supply Chain** • A copy of written customer product specifications is kept,

	BRC Global Standard for Food Safety - Issue 8	SQF Food Safety Program - Edition 9 (Primary Production, Manufacturing and Storage and Distribution Codes)	GLOBALG.A.P. Integrated Farm Assurance Standard – Version 5.3	Freshcare Food Safety & Quality (On-farm (FSQ4.2) and Supply Chain (SC1) Standards)
	requirements and contain information to enable the safe handling, display, storage and preparation of the product within the food supply chain or by the customer. • The site shall ensure that finished product is not released unless all agreed procedures have been followed. • Where the quantity of the product is not governed by legislative requirements the product must conform to customer requirements and records shall be maintained. • Specifications shall be available for all products and shall be formally agreed to by relevant parties. • There shall be demonstrable processes to ensure customer-specified requirements are met and specifications shall be reviewed frequently. • The site shall operate processes to ensure that the products received comply with the buying specifications and that the supplied products are in accordance with any customer specification. • The company shall have documented processes to verify	**Pre-process handling (manufacture)** • Product development methods shall be documented and implemented. • A food safety plan shall be validated and verified for each new product and its processes. • Records of all product design, process development, shelf life trials and approvals shall be maintained. • Finished product specifications shall be documented and a register maintained. • Non-conforming product is appropriately managed and records of handling kept. • Responsibility and methods outlining how ingredients, packaging materials or products are reworked shall be documented and implemented and records maintained. • Responsibility and methods for releasing products shall be documented and implemented and records maintained. • Suppliers to notify the site of changes in product composition or formulation. • Finished product labels are accurate, approved and comply with the relevant legislation.		product assessments are conducted in accordance with customer specification and a record is kept. • The customer is informed if specifications are not met and an agreed course of action is implemented and recorded.

	BRC Global Standard for Food Safety - Issue 8	SQF Food Safety Program - Edition 9 (Primary Production, Manufacturing and Storage and Distribution Codes)	GLOBALG.A.P. Integrated Farm Assurance Standard – Version 5.3	Freshcare Food Safety & Quality (On-farm (FSQ4.2) and Supply Chain (SC1) Standards)
	the legality of products which are traded.	• A risk-based environmental monitoring program shall be in place. Responsibility and methods for the program shall be documented and implemented. • A sampling and testing schedule shall be prepared. Testing results shall be monitored and corrective actions implemented. **Storage and distribution** • Responsibility and methods outlining how non-conforming product, raw material, ingredient, work-in-progress, packaging or equipment detected during receipt, storage, processing, handling or delivery is handled shall be documented and implemented. • All incoming supplies shall be supplied by an approved supplier and verified for food safety. • Descriptions and records of the contract services to be documented an validated. • The responsibility and methods outlining how the product is recouped shall be documented and implemented. • The responsibility and methods for releasing products shall be documented and implemented and records shall be maintained.		

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Hazard analysis	• The company shall have a full implemented and effective food safety plan incorporating HACCP principles. • HACCP documenting and record keeping shall be maintained. • The HACCP plan shall be reviewed.	**Primary production** • Food supplied and its production shall comply with applicable legislation in the country of use or sale. • Methods for ensuring knowledge of relevant legislation, industry codes, emerging issues shall be documented and implemented. • Notify SQFI and the certification body in the event of a regulatory warning. • Apply Good Agricultural Practice unless exempt by risk analysis. • A HACCP-based food safety plan is developed. Hazard analysis is conducted for every identified hazard. • Finished products are sampled, inspected and analysed at least annually. • Internal and external laboratory testing methods used for analysis are accredited or equivalent to a national standard. • Product rework, risk-based environmental monitoring and product release methods and responsibilities are documented and implemented. **Pre-process handling (manufacture)**	• A risk assessment is available for all sites, making reference to microbial contamination and showing the site is suitable for production with regards to food safety, the environment, and health and welfare of animals in the scope of the livestock and aquaculture certification. • A management plan that establishes strategies to minimise identified risks has been developed and implemented. • A hygiene risk assessment for the harvest, pre- and post-farm gate transport process, and post-harvest activities has been performed. • Documented hygiene procedures and instructions for the harvest and post-harvest processes to prevent contamination of crop, crop production areas, food contact surfaces and harvested product.	**On-farm** • Risk assessments are conducted for persistent chemicals, heavy metals, fertilisers and soil additives, pre-harvest water and any additional food safety hazard. If the risk of hazard is high relevant control measures, monitoring and verification activities are implemented. • Risk assessments are conducted for any aspect of the standard not implemented detailing the reason for exclusion. • All risk assessments are reviewed at least annually or when changes occur that may impact the significance of hazards. **Supply Chain** • A risk assessment is conducted and additional actions implemented for any food safety hazard not managed through the elements of the supply chain standard. • Where aspects of the supply chain standards are not implemented, it is supported by a risk assessment detailing reasons for exclusion. • Risk assessments are reviewed at least annually.

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		• Food supplied shall comply with applicable legislation in the country of use or sale. • Methods for ensuring the site is kept informed of changes to relevant legislation, scientific and technical developments, emerging food safety issues and industry codes of practice shall be documented and implemented. • Notify SQFI and the certification body in the event of a regulatory warning. • Apply Good Manufacturing Practices unless exempt by risk analysis. • A HACCP-based food safety plan is developed. • Raw materials and finished products are sampled, inspected and analysed at least annually. • Internal and external laboratory testing methods used for analysis are accredited or equivalent to a national standard. • Product rework, risk-based environmental monitoring and product release methods and responsibilities are documented and implemented. **Storage and distribution** • Food delivered to the customer shall be handled in a manner that complies with relevant legislation		

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		in the country of origin and destination. • Methods and responsibility for scheduling and conducting internal audits shall be documented and implemented. Internal audits shall be conducted at least annually. • Staff conducting internal audits shall be trained. • The food safety team shall develop and document a flow diagram covering the scope of each food safety plan. • Records of internal audits and inspections shall be maintained. • Notify SQFI and the certification body in the event of a regulatory warning. • Apply Good Storage and Distribution Practices unless exempt by risk analysis. • A HACCP-based food safety plan is developed. Hazard analysis is conducted for every identified hazard.		
Growing site		**Primary production** • A risk assessment is conducted on growing sites to document risk to crops from environmental factors and reviewed. • Control measures are implemented where risks are identified.	• There is a reference system for each area used in production. • A management plan that establishes and implements strategies to minimise risks has been developed and implemented.	**On-farm** • Control measures for any identified risk of persistent chemical or heavy metal contamination are implemented. • Growing sites are assessed for potential spray drift and plantings

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		• Maintain records for each production site listing what crops have been grown and harvested on the site.	• There is a policy for how to enhance the environment for the benefit of the local community and flora and fauna. • There is a policy for the conversion of unproductive sites to ecological focus areas for the encouragement of natural flora and fauna.	are planned to minimise contamination risk. • Specified timings of planting in flood affected growing sites is considered for certain produce. • Time periods apply between livestock being permitted on growing sites and harvest dates. • Growing sites are assessed for potential physical contamination and contaminants are removed or managed and identified on the property map.
Planting materials			• Propagation material has been obtained in accordance to intellectual property laws. • Plant health quality control systems are operational for in-house nursery propagation. • Propagation material is accompanied by information of chemical treatments done by the supplier. • Planting of genetically modified organisms comply with applicable legislation. • There is a plan for handling genetically modified organisms to minimise contamination and crops are stored separately from other crops.	**On-farm** • Planting materials are purchased from suppliers that are managed in accordance with supplier requirements.
Chemicals	• Specified processes shall be in place to manage the use, storage and handling of non-food	**Primary production** • Hazardous chemicals, toxic substances and petroleum are	• Procedures are in place for the correct use, handling and storage of plant protection products.	**On-farm** • Obtain properly labelled chemicals from approved

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	chemicals to prevent chemical contamination. • Where strongly scented or taint-forming materials have to be used, procedures shall be in place to prevent the risk of taint contamination of products.	stored appropriately to minimise hazard outside of food handling areas, product and packaging storage rooms. • Chemicals that contact product are stored separately in original containers. • Chemical storage sheds are designed and constructed appropriately. • Chemicals must be approved for use in the country of production and destination country. A chemical register is maintained. • A spray or crop protection program shall be prepared and implemented. • Maintain records of chemical applications. • Chemical waste and empty containers shall be disposed of in accordance with regulatory requirements. **Pre-process handling (manufacture)** • Hazardous chemicals and toxic substances shall be received and stored appropriately to minimise food contamination. • Foods shall be loaded, transported, and unloaded under conditions suitable to prevent cross-contamination. • Records are documented.		suppliers, ensure labels remain legible and keep a record of purchase. • Chemicals are stored, managed and disposed of to minimise risk of contaminating produce. Stored chemicals are checked at least annually and a record of the check is kept. • Workers who store, handle, apply and dispose of chemicals are trained and authorised to do so and a register is kept. • Chemicals are used according to regulatory, label and market requirements. • Spray drift is avoided, identified and recorded. • Chemical application equipment is maintained and calibrated at least annually using a recognised method and a record is kept. • Mixing and disposal of chemical solutions is managed to minimise the risk of produce contamination. • All pre-harvest and postharvest chemical applications are recorded. • Chemical residue tests are conducted to verify chemicals are applied correctly, withholding periods are observed and produce complies with maximum residue limits.

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		Storage and distribution • Hazardous chemicals and toxic substances shall be received and stored appropriately to minimise food contamination. • Foods shall be loaded, transported, and unloaded under conditions suitable to prevent cross-contamination. • Records are documented.		**Supply chain** • Chemicals are obtained from approved suppliers and labels are legible and complete. • Chemicals are stored, managed and disposed of to minimise the risk of contaminating produce. • Workers who store, handle, apply and dispose of chemicals are trained and authorised. • Chemicals are used appropriately and according to label, regulatory and market requirements.
Fertilisers and soil		**Primary production** • Soil amendments are isolated and stored separately from crop, field or irrigation water sources. • An inventory of soil amendment storage is maintained. • A soil amendment policy is documented, implemented and designed to prevent contamination of product. • Soil amendment protocols will be timed to minimise risk to product safety and human health. • Methods, treatment and responsibility of soil amendment shall be documented, validated and verified to minimise food safety risks.	• There is a soil management plan. • Soil maps have been prepared for the farm. • There is crop rotation for annual crops. • Procedures are in place to improve or maintain soil structure and to reduce the possibility of soil erosion. • Records are kept of seed/planting rate and sowing/planting date. • Recommendations for the application of fertilisers are provided by competent and qualified persons. • Records of application of soil and foliar fertilisers are kept. • Fertilisers are stored appropriately. • Records are kept of substrate recycling.	**On-farm** • Fertilisers and soil additives are managed to minimise the risk of produce contamination. • Human effluent or biosolids are not used. • Heavy metal limits are complied with. • Storage sites are located, constructed and maintained to minimise risk of contamination. • Exclusion periods between application of fertiliser or soil additives and harvest are observed. • Fertilisers and soil additives used within exclusion periods must be treated and evidence kept. • Time periods apply between use of liquid or foliar sprays derived

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			• Use of substrates is managed appropriately. • There is a written justification for the use of soil fumigants. • The interval between the application of organic fertiliser and the product harvest does not compromise food safety.	from untreated manures and harvest dates. • Pre-harvest water requirements must be met for all other liquid or foliar sprays that may contact the harvestable part of the crop. • Fertilisers and soil additives are not applied when risk of contaminating off-target areas due to wind drift and/or runoff is high. • Records are kept of fertiliser and soil additive applications.
Water		**Primary production** • A water description plan shall be prepared that describes the water sources and the production blocks they serve. • Agriculture water shall be sourced from a location and in a manner that is compliant with regulations. • Where irrigation water is treated it shall conform to microbiological standards. • An initial risk assessment shall be performed and documented. • Water that contacts produce and for washing hands shall comply with potable water microbiological and chemical standards in the country of production and destination. • Water quality shall be monitored to ensure it complies with	• Measures have been taken to collect water and to recycle taking into consideration all food safety aspects. • Crop irrigation requirements are calculated based on data. • A risk assessment that evaluates environmental issues for water management has been undertaken and is reviewed within 12 months. • A water management plan that identifies water sources and ensures efficiency of application is available. • Records are maintained for crop irrigation/fertigation water usage. • A risk assessment has been conducted on physical and chemical pollution of water used	**On-farm** • Identify pre-harvest and postharvest water sources and monitor and manage to minimise potential contamination. • Monitor and maintain water extraction points, water storage and delivery infrastructure and irrigation equipment. • Manage and maintain water storage tanks, water dumps, flumes and treatment tanks. • Manage all other water usage including for handwashing, cleaning equipment, containers and other produce contact surfaces. Risk assess and document variations to water quality. **Supply Chain**

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		established water microbial and chemical standard or criteria established. • Water used for hydroponics shall be frequently changed and procedures implemented to minimise microbial and chemical contamination. • A corrective action plan shall be developed when water does not meet established criteria or standards. • Ice used should be made from water that meets microbiological and quality standards. • Written procedures shall be developed for all uses of water during harvesting. **Pre-process handling (manufacture)** • Adequate supplies of uncontaminated potable water shall be supplied for food handling operations and cleaning. Water shall be stored in adequate facilities to prevent contamination. • Appropriate water treatment methods shall be in place. • Treated water and treatment equipment shall be monitored regularly. • Contingency plans shall be in place for instances when water is contaminated.	on pre-harvest activities and is reviewed within 12 months. • Corrective actions are taken based on adverse results from the risk assessment before the next harvest cycle. • Where legally required, valid permits/licences are available for all farm water extraction, water storage infrastructure, on-farm usage and , where appropriate, any subsequent water discharge. • Water storage facilities are present and well maintained to take advantage of periods of maximum water availability. • A risk assessment covers the microbiological quality of the water used in pre-harvest operations. • If the risk assessment or water tests require it, adequate actions have been implemented to prevent product contamination. • Laboratory analysis considers microbiological contamination. • Ice or water used during harvest or cooling meets microbial standards for drinking water and is handled under sanitary conditions to prevent produce contamination. • Water used for final product washing is potable or declared	• Water sources and infrastructure are managed. • Water use is managed to minimise risk of contaminating produce.

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		• Ice sourced from an approved supplier and included in the site's food safety risk assessment. • Water shall comply with microbiological and quality standards and analysis shall be conducted using reference standards and methods. **Storage and distribution** • Adequate supplies of water from clean source shall be provided for use during holding or storage and for cleaning the premises and equipment. • Microbiological analysis of water and ice in contact with food shall be conducted using reference standards and methods. • Delivery of water shall ensure potable water is not contaminated. • Contingency plans shall be in place for instances when water is contaminated. Non-potable water shall be designed and controlled to prevent contamination from backflow. • Ice rooms and receptacles shall be designed and constructed to minimise ice contamination during storage and distribution.	suitable by the competent authorities. • Recirculated water has been filtered and pH, concentration and exposure levels to disinfectant are routinely monitored and the laboratory carrying out the water analysis is suitable.	
Allergens	• The site shall have a system for the management of allergenic materials which minimises the	**Primary production**	• Product labelling is done according to applicable food regulations in the country of	**On-farm** • Raw material inputs are reviewed for known allergens and if

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	risk of allergen contamination of products and meets legal requirements for labelling in the country of sale. • A documented risk assessment shall be carried out to identify routes of contamination and establish documented policies and procedures for handling raw materials and intermediate and finished product to ensure cross-contamination is avoided.	• Allergen management program to list allergens applicable in the country of production/destination. • The responsibility and methods used to control and prevent sources of allergens shall be documented and implemented. • Product labelling, in accordance with regulatory requirements will include allergens. **Pre-process handling (manufacture)** • The responsibility and methods used to control and prevent sources of allergens shall be documented and implemented. • Sites that do not handle allergenic material shall document, implement and maintain an allergen management program addressing the mitigation of introducing unintended allergens. **Storage and distribution** • Responsibility and methods used to control and prevent sources of allergens shall be documented and implemented. • Allergen management to include identification, labelling and handling, and product recoup and plans to mitigate accidently introduced allergens.	intended sale and according to customer specifications. • Products are labelled to identify them where the risk assessment indicates potential food allergen cross-contamination.	identified an allergen management plan is documented. • Allergen training is provided for workers. • Allergen labelling is managed to comply with regulations in the country of production and destination country. **Supply chain** • Potential sources of allergens are identified and managed.

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Premises, facilities, equipment, tools, packaging and vehicles	• The production site shall be of suitable size, location and construction and be maintained to reduce the risk of contamination and facilitate the production of safe and legal finished products. • Systems shall protect products, premises and brands from malicious actions while under the control of the site. • The factory layout, flow of processes and movement of personnel shall be sufficient to prevent the risk of product contamination and to comply with relevant legislation. • The fabrication of the site, buildings and facilities shall be suitable for the intended purpose. • Utilities used within the production and storage areas shall be monitored to effectively control the risk of product. • All food processing equipment shall be suitable for the intended purpose and shall be used to minimise the risk of contamination of product. • An effective maintenance programme shall be in operation for plant and equipment to prevent contamination and reduce the potential for breakdowns.	**Primary production** • Food contact packaging and agricultural inputs shall be documented, kept current, comply with relevant legislation and be verified to ensure product safety and fit for its intended purpose. • Labels shall be accurate and comply with legislation. • A register of packaging materials and agricultural inputs labels and specifications be maintained. • Buildings used to store equipment, field chemicals, field packaging materials, or field product shall be designed and durably constructed to comply to good hygiene practices and to avoid product contamination. • Indoor growing sites and the drainage facilities shall be designed to food safety risk. • A procedure for handling glass or hard plastic breakages in green houses shall be documented and implemented. • Specified requirements shall be met for chilling, cold storage and controlled atmosphere facilities. • Specified requirements shall be met for storage of dry ingredients, packaging and utensils. • Specified requirements shall be met for construction and storage	• Waste minimisation practices are in place including review of current practices, avoidance, reduction, re-use and recycling of waste. • Farming equipment is selected and maintained for optimum energy efficiency and use of renewable energy sources is encouraged. • Equipment sensitive to food safety is maintained, routinely verified and calibrated at least annually. • Equipment sensitive to the environment and other equipment used on farming activities are routinely verified and calibrated at least annually. • There is an independent calibration-certification scheme. • PPP equipment is stored to prevent product contamination. • Appropriate clean toilets, handwashing equipment and change facilities are available. • Harvest containers are used exclusively for produce and the containers and harvesting tools and equipment are appropriate for intended use and cleaned and maintained to protect product from contamination.	**On-farm** • Growing, handling, packing and storage facilities are located, designed, constructed and maintained to be suitable for the production and preparation of produce. • Packing and storage is conducted in a designated clean area. Hand washing facilities are easily accessible. Facilities are reviewed and a record is kept. • Toilets and handwashing facilities are provided and maintained to minimise the risk of produce contamination. • Septic, waste and drainage systems are constructed and maintained to minimise produce contamination. • Tools, equipment and containers the contact produce are maintained and cleaned. • Monitoring and measuring equipment is maintained. • Packing materials are stored to minimise contamination and checked for cleanliness, foreign objects and pest infestation. • Cooling systems are constructed and maintained to minimise the risk of contaminating produce. • Transport vehicles are managed to minimise produce

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	• Appropriate facilities and procedures shall be in place to control the risk of chemical or physical contamination of product. • The risk of product contamination shall be reduced or eliminated by the effective use of equipment to remove or detect foreign bodies. • Housekeeping and cleaning systems shall be in place which ensure appropriate standards of hygiene are maintained at all times and the risk of product contamination is minimised. • Waste disposal shall be managed in accordance with legal requirements and to prevent accumulation, risk of contamination and the attraction of pests. • All facilities used for the storage of raw materials, packaging, in-process products and finished products shall be suitable for purpose. • Procedures shall be in place to ensure that the management of dispatch and of the vehicles and containers used for transporting products from the site do not present a risk to the safety, security or quality of the products.	of machinery, conveyors, harvesting rigs. • Equipment, vehicles, tools, utensils used in farming that may contact produce are in good repair, clean, ssanitised and stored appropriately. • Water tanks shall be cleaned frequently. • Harvest containers and pallets shall be inspected before and during harvesting. There shall be a documented and implemented procedure. • Harvest containers used for non-harvest activities will be dealt with appropriately. • Vehicles for transport of produce shall meet specified requirements. • Tractors, harvesters, field packing equipment and machinery driven over crops shall be fitted with drip trays to prevent contamination. • There shall be planned, scheduled and implemented maintenance of equipment and buildings. • Equipment shall be calibrated against manufacturer or reference standards. • Cleaning of product contact surfaces, field harvesting equipment and sanitary facilities	• Vehicles used for transport or harvested produce and equipment used for loading is cleaned and maintained according to risk. • Harvested produce is protected from contamination. • Collection, storage and distribution points of packed produce are maintained in clean and hygienic conditions. • Packing materials are appropriate for use and are prevented from becoming a source of contamination. • Waste material is controlled in a way that does not pose a risk of contamination. • There are written procedures for handling glass and clear hard plastic. • Temperature and humidity controls are maintained and documented.	contamination and refrigeration systems are checked. • A documented plan of preventative maintenance, cleaning of produce handling and storage areas, equipment, containers, materials and vehicles that come into contact with produce is followed. • Cleaning is monitored. • Waste is managed and appropriately disposed of. **Supply chain** • Foreign objects, including glass, hard or brittle plastic, ceramic or similar materials are managed to prevent contamination of produce. • Foreign object findings are investigated and managed. • Workers are trained to recognise potential or foreign object contamination and report foreign object findings. • Foreign object detection equipment is managed. • Facilities are located, designed, constructed and maintained to minimise the risk of contaminating produce. • Workers' facilities are maintained to minimise the risk of contaminating produce.

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	• Product packaging shall be appropriate for the intended use and shall be stored under conditions to prevent contamination and minimise deterioration. • The site shall operate to procedures and/or work instructions that ensure the production of consistently safe and legal product with the desired quality characteristics, in full compliance with the HACCP food safety plan. • The management controls of product labelling activities shall ensure that products will be correctly labelled and coded. • The site shall operate a quantity control system which conforms to legal requirements in the country where the product is sold and any additional industry sector codes or specified customer requirements. • The site shall be able to demonstrate that production facilities and controls are suitable to prevent pathogen contamination of products.	shall be documented and implemented. • Toilet facilities shall be provided and designed, constructed and located appropriately to minimise risk of product contamination. • Amenities for staff including storage and meal break areas shall be in appropriate locations. • A pre-harvest risk assessment procedure shall be documented and implemented. • Use and storage of harvesting equipment shall be documented and controlled. • Containers, equipment and other utensils made of glass, porcelain, ceramics, brittle plastic or similar shall not be permitted where exposed product is handled unless a foreign material and glass protocol is documented and implemented. Specified requirements will be in place to monitor. • Specified personnel practices shall be used by field packing employees. • A written policy regarding the handling and field packaging of produce, specific to the commodity, shall be implemented and maintained. Packaging		• Storage, ripening and cooling facilities are constructed and maintained to minimise the risk of contaminating produce. • Produce transport vehicles are managed to minimise the risk of contaminating produce. • Maintenance, cleaning and waste disposal are effectively managed to minimise the risk of contaminating produce. • Tools, equipment and containers that contact produce are managed. • Monitoring and measuring equipment is maintained. • Product packaging and labels are managed.

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		materials shall be appropriate for their intended use. • Loading, transport and unloading of crops shall ensure product integrity is maintained and practices shall be documented and implemented. Relevant employees shall be trained. • A procedure shall be documented and implemented for waste disposal. **Pre-process handling (manufacture)** • Raw and packaging material specifications shall be documented and kept current. They shall comply with relevant legislation in the country of manufacture and destination. Methods for developing and approving specifications shall be documented. Raw and packaging materials shall be validated. • Premises location shall be appropriate and construction approved by the relevant authority. • Construction of premises and equipment shall meet specified requirements. • Windows, doors and ventilation should be sealed to avoid pests. • Pest control devices are designed and maintained.		

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		• Hand washing facilities are provided at access points and shall meet specified requirements. • Staff amenities shall have appropriate lighting and ventilation. • Appropriate change rooms, toilets and lunch rooms shall be provided. • Compressed air that contacts food or food contact surfaces shall present no risk to food safety. • A storage plan shall be documented and implemented including responsibility and methods for appropriate storage. • Specified requirements for dry ingredient, packaging, shelf stable packaged goods, cold storage, controlled atmosphere storage and chilling of foods shall be met. • Practices applied during loading, transport and unloading of food shall be documented and implemented. • Process flow shall be designed to prevent cross-contamination. • Responsibility and methods used to collect and handle dry, wet and liquid waste and store prior to		

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		removal shall be documented and implemented.		
		• Measures shall be established to maintain a suitable external environment.		
		Storage and distribution		
		• Product handling and storage requirements for all products received, stored and intended for distribution shall be documented, current, approved by the distributor and their customer and accessible.		
		• Product descriptions for all incoming supplies used by the site but not intended for distribution shall be documented, kept current and comply with relevant legislation.		
		• Premises location shall be appropriate and construction approved by the relevant authority.		
		• Construction of premises and equipment shall meet specified requirements.		
		• Windows, doors and ventilation should be sealed to avoid pests.		
		• Pest control devices are designed and maintained.		
		• Handwashing facilities shall be provided and accessible.		

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		• Staff amenities shall have appropriate lighting and ventilation. • Appropriate change rooms, toilets and lunch rooms shall be provided. • Compressed air or other gases that contact food or food contact surfaces shall be clean and present no risk to food safety. • The site shall implement an effective storage plan with responsibility and methods for ensuring effective stock rotation principles are applied. • Specified requirements for storage of shelf stable packaged goods, equipment, containers, cold storage, freezing and chilling of foods shall be met. • Practices applied during loading, transport and unloading of food shall be documented and implemented. • Vehicles used for transporting food shall be inspected prior to loading and transport vehicle refrigeration units shall be maintained and operational at all times. • Process flow shall be designed to prevent cross-contamination. • Receiving practices shall be designed to minimise		

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		unnecessary exposure of the product to conditions detrimental to product integrity. • Responsibility and methods used to collect and handle dry, wet and liquid waste and store prior to removal shall be documented and implemented. • Measures shall be established to maintain a suitable external environment.		
Animals and pests	• The whole site shall have an effective preventive pest management programme in place to minimise the risk of infestation. • Resources shall be available to respond rapidly to any issues which occur to prevent risk to products. • Pest management programs shall comply with all applicable legislation.	**Primary production** • There shall be a written, monitored and implemented risk assessment on animal activity in and around the production of produce. • Measure shall be in place to control domestic and wild animals in growing fields, greenhouses and storage and product handling areas. **Pre-process handling (manufacture)** • Methods and responsibility for integrated pest prevention shall be documented and effectively implemented. • Inspections for pest activity shall be undertaken on a regular basis by trained personnel and appropriate action taken if pests are present. **Storage and distribution**	• Assistance with implementation of an integrated pest management system has been obtained through training and advice. • The producer can show evidence of implementing activities that fall under the category of prevention, observation and monitoring and intervention. • Anti-resistance recommendations have been followed to maintain effectiveness of available PPPs. • There is lack of evidence of excessive animal activity in the crop production area that is a potential food safety risk. • There is a system for monitoring and correcting pest populations in packing and storing areas. • There is visual evidence that the pest monitoring and correcting processes are effective.	**On-farm** • Measures are taken to minimise animals and pests in and around areas where produce is grown, packed and stored. • A plan for managing pests is documented and measures are monitored. **Supply Chain** • Measures are taken to minimise animal and pest presence. • A plan for managing pests is documented. • Pest control activities are managed to minimise the risk of contaminating produce. • Pest control measures are monitored.

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		• Methods and responsibility for pest prevention shall be documented and implemented. • Inspections for pest activity shall be undertaken on a regular basis by trained personnel and appropriate action taken if pests are present.	• Detailed records are kept of pest control inspections and necessary actions taken. • There is a wildlife management and conservation plan for the farm business that acknowledges the impact of farming activities on the environment.	
People	• Staff facilities shall be sufficient to accommodate the required number of personnel and shall be designed and operated to minimise the risk of product contamination. The facilities shall be maintained in good and clean condition. • The site's personal hygiene standards shall be developed to minimise the risk of product contamination from personnel, be appropriate to the products produced and be adopted by all personnel, including agency-supplied staff, contractors and visitors to the production facility. • The company shall have procedures in place to ensure that employees, agency staff, contractors or visitors are not a source of transmission of food-borne diseases to products. • Suitable site-issued protective clothing shall be worn by employees, contractors or visitors	**Primary production** • Appropriate practices shall be used by personnel engaged in the handling of product including those suffering from or carrying infectious diseases or with exposed cuts, sores or lesions. • Medical screening practices are in place. • Smoking, chewing, eating, drinking or spitting is not permitted in growing areas. • Personnel shall have clean hands and hands shall be washed at specified times. • Specified requirements are in place for protective clothing. • Jewellery or other loose objects posing a threat to product safety shall not be worn or taken into growing, product handling or storage areas. • Visitors must follow all personnel practices. Unsupervised children are not permitted in harvesting, packing or food storage areas.	• There is a written hygiene risk assessment and implemented hygiene procedures. • All workers receive annual hygiene training appropriate to their activities and health and safety training. • There is a written risk assessment for hazards to workers' health and safety and implemented health and safety procedures. • There are accident and emergency procedures on display. • Potential hazards are identified by warning signs. • Safety advice for hazardous substances is accessible. • First aid kits are available and there are an appropriate number of people trained in first aid present. • Suitable protective clothing is supplied and is cleaned after use	**On-farm** • Written food safety instructions are provided to workers and visitors and reinforced with signage to minimise produce contamination. Compliance is monitored. • Access to property, growing sites and product handling areas is managed to minimise produce contamination. **Supply chain** • Food safety instructions are communicated to workers and visitors to minimise the risk of chemical, microbial and physical contamination of produce. • Site access is managed.

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	working in or entering production areas.	**Pre-process handling (manufacture)** • Appropriate practices shall be used by personnel engaged in the processing or packing of food including those suffering from or carrying infectious diseases or with exposed cuts, sores or lesions. • Smoking, chewing, eating, drinking or spitting is not permitted in areas where produce is stored or otherwise exposed. • A risk analysis shall be undertaken to ensure that clothing and hair policy protects materials, food and food contact surfaces from unintentional microbiological or physical contamination. Clothing shall be maintained, stored, laundered and worn so as not to present a contamination risk to products. • Disposable gloves and aprons shall be changed after each break, upon re-entry into food handling areas and when damaged. • Jewellery and other loose objects shall not be worn or taken into a product handling area or any area where food is exposed. **Storage and distribution**	and stored to avoid contamination. • There is a person responsible for workers' health, safety and welfare. • Workers have access to clean food storage areas, rest areas, handwashing facilities and drinking water. • Living quarters are habitable. • Subcontractor activities are overseen to ensure compliance with GLOBALG.A.P. requirements. • Hygiene procedures and instructions for harvest and postharvest activities are implemented. • Workers have received hygiene training before harvesting and handling produce. • Smoking, eating, chewing and drinking are confined to designated areas.	

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		• Appropriate practices shall be used by personnel engaged in the processing or packing of food including those suffering from or carrying infectious diseases or with exposed cuts, sores or lesions. • Smoking, chewing, eating, drinking or spitting is not permitted in food handling or storage areas. • Clothing shall be maintained, stored, laundered and worn so as not to present a contamination risk to products. • Jewellery and other loose objects shall not be worn or taken into any area where exposed food is recouped.		
Suppliers	• The company shall have an effective supplier approval and monitoring system to ensure that any potential risks from raw materials (including primary packaging) to the safety, authenticity, legality and quality of the final product are understood and managed. • Controls on the acceptance of raw materials (including primary packaging) shall ensure that these do not compromise the safety, legality or quality of	**Primary production** • Specifications for contract services impacting finished product safety shall be documented. • Methods and responsibility for ensuring agreements relating to food safety, customers product requirements and its realisation and delivery are documented and implemented. • Specified requirements exists around selecting, approving, documenting, monitoring and auditing approved suppliers.		**On-farm** • Materials and services that may introduce a food safety risk are identified and managed. Evidence of compliance is kept. Purchase records are kept. Competent laboratories are used when testing. • Produce represented for sale as Freshcare certified must be managed appropriately. **Supply chain** • Approved suppliers of produce are managed.

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	products and where appropriate any claims of authenticity. • The company shall be able to demonstrate that where services are outsourced, the service is appropriate and any risks presented to food safety, legality and quality have been evaluated to ensure effective controls are in place. • Where any process step in the manufacture of a product is outsourced to a third party or undertaken at another site, this shall be managed to ensure it does not compromise the safety, legality, quality or authenticity of the product. • Specifications shall exist for raw materials (including primary packaging), finished products and any product or service which could affect the integrity of the finished product. • The company shall operate procedures for the approval of the last manufacturer or packer of food products which are traded to ensure that traded food products are safe, legal and manufactured in accordance with any defined product specifications.	**Pre-process handling (manufacture)** • Specifications for contract services that have an impact on product safety shall be documented and current and a register maintained. • The methods and responsibility for ensuring all agreements relating to food safety and customer product requirements and its realisation and delivery are specified and agreed shall be documented and implemented. • Records of all contract reviews and changes shall be maintained. • An approved supplier program shall be in place. Raw materials, ingredients, packaging materials and services that impact on finished product safety shall meet the agreed specification and be supplied by an approved supplier. **Storage and distribution** • Specifications for contract services that have an impact on product safety shall be documented and current and a register maintained. • The methods and responsibility for ensuring all agreements relating to food safety and customer product requirements and its realisation and delivery		• Materials and services that may introduce a food safety risk are identified and managed.

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		• are specified and agreed shall be documented and implemented. • Records of all contract reviews and changes shall be maintained. • Incoming goods that may have an impact on product safety shall be supplied by an approved supplier.		
Food defence and food fraud	• Systems shall protect products, premises and brands from malicious actions while under the control of the site. • Systems shall be in place to minimise the risk of purchasing fraudulent or adulterated food raw materials and to ensure that all product descriptions and claims are legal, accurate and verified.	**Primary production** • Methods, responsibility and criteria for preventing food adulteration caused by deliberate act shall be documented with specific requirements, implemented, reviewed and challenged at least annually. • Methods, responsibility and criteria for identifying the site's vulnerability to food fraud shall be documented, maintained and reviewed. **Pre-process handling (manufacture)** • Methods, responsibility and criteria for preventing food adulteration caused by deliberate act shall be documented with specific requirements, implemented, reviewed and challenged at least annually. • Methods, responsibility and criteria for identifying the site's vulnerability to food fraud shall be documented, maintained and reviewed.	• There is a risk assessment for food defence and procedures are in place to address identified food defence risks. • There is a food fraud vulnerability risk assessment. • There is an implemented food fraud mitigation plan.	**On-farm** • A food defence vulnerability assessment is completed to assess risk of intentional contamination. A control plan is documented and reviewed for an identified food defence threat. • A food fraud vulnerability assessment is completed to assess risk of intentional adulteration, substitution or misrepresentation. A control plan is documented and reviewed for an identified food defence threat. **Supply chain** • Potential food defence threats that may impact food safety are identified and control measures are implemented where required. • Potential vulnerabilities for food fraud that may impact food safety are identified and where required control measures are implemented.

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		Storage and distribution • Methods, responsibility and criteria for preventing food adulteration caused by deliberate act shall be documented with specific requirements, implemented, reviewed and challenged at least annually. • Methods, responsibility and criteria for identifying the site's vulnerability to food fraud shall be documented, maintained and reviewed.		
Product identification and traceability	• The site shall be able to trace all raw material product lots (including primary packaging) from its suppliers through all stages of processing and dispatch to its customers and vice versa. • The company shall be able to trace all product lots back to the last manufacturer and forward to the customer of the company.	**Primary production** • A product identification system shall be implemented and records kept. • The responsibility and methods used to trace product shall be documented and implemented. • Records of agricultural inputs and packaging material receipt and use, and product shipping and transportation shall be maintained. • Labels are checked during operation to ensure correct product and package is with correct label. • Procedures to ensure label use is reconciled, inconsistencies investigated and resolved. • The responsibility and methods used for crisis management shall	• There is a system in place to identify and segregate GLOBALG.A.P. certified and non-certified products. • GLOBALG.A.P. registered product is traceable back to and trackable from the registered farm.	**On-farm** • A product identification and traceability system is maintained to enable produce to be traced from production to destination. • Release procedures are documented and must include assessment and final check of produce prior to dispatch, controls for produce found non-compliance and any required corrective action. **Supply chain** • A product identification and traceability system is maintained to enable produce to be traced from production to its destination.

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		be documented, implemented and reviewed annually. **Pre-process handling (manufacture)** • Methods and responsibility for identifying raw materials, ingredients, packaging materials, work-in-progress, process inputs and finished products during all stages of production and storage shall be documented and implemented. Product identification records shall be maintained. • Product start up and changeover procedures during packing shall be documented and implemented. • Labels are checked during operation to ensure correct product and package is with correct label. • Procedures to ensure label use is reconciled, inconsistencies investigated and resolved. • The responsibility and methods used to trace product shall be documented and implemented. • Records of raw and packaging material receipt and use and finished product dispatch and destination shall be maintained. • The responsibility and methods used for crisis management shall		

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		be documented, implemented and reviewed annually. **Storage and distribution** • Methods and responsibility for identifying products during all stages of storage shall be documented and implemented. • The responsibility and methods used to trace product shall be documented and implemented. • Records of product received and dispatched along with destination details are maintained. • The responsibility and methods used for crisis management shall be documented, implemented and reviewed annually.		
Incident management, recall and withdrawal	• Customer complaints shall be handled effectively and information used to reduce recurring complaint levels. • The company shall have a plan and system in place to manage incidents effectively and enable the withdrawal and recall of products should this be required.	**Primary production** • The responsibility and specified methods used to withdraw or recall product shall be documented and implemented • Investigation shall be undertaken to determine the cause of withdrawal, mock recall or recall and details of investigations and action taken shall be documented. • Product withdrawal and recall system shall be reviewed, tested and verified at least annually. • Records of all product withdrawals, recalls and mock recalls shall be maintained.	• There are documented procedures on how to manage/initiate the withdrawal/recall of certified products from the marketplace. Procedures are tested annually. • There is a documented and implemented procedure for non-conforming products.	**On-farm** • An incident management plan is documented and tested and reviewed at least annually. A record is kept. • Product recall and withdrawal is managed. • A mock recall is completed annually where produce is supplied direct to consumers, if required by a customer. **Supply chain** • A system enabling the effective withdrawal or recall of produce is maintained. • A mock product withdrawal or recall is completed annually.

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		• Methods and responsibility of crisis management documented and implemented with annual review. **Pre-process handling (manufacture)** • The responsibility and specified methods used to withdraw or recall product shall be documented and implemented. • Investigation shall be undertaken to determine the cause of withdrawal, mock recall or recall and details of investigations and action taken shall be documented. • Product withdrawal and recall system shall be reviewed, tested and verified as effective at least annually. • Recall procedure to include products from different shifts and for materials across a range of products and customers. • Records of all product withdrawals, recalls and mock recalls shall be maintained. **Storage and distribution** • The responsibility and specified methods used to withdraw or recall product shall be documented and implemented. • Investigation shall be undertaken to determine the cause of		

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		withdrawal or recall and details of investigations and action taken shall be documented. • Product withdrawal and recall system shall be reviewed, tested and verified as effective at least annually. • Records of all product withdrawals, recalls and mock recalls shall be maintained.		

8 Annex 4 – Gap analysis of GFSI Benchmarking requirements

The following Table 4-1 aligns the main food safety risk factors and control measures identified by FSANZ with high-level GFSI benchmarking requirements for food safety schemes (for further details, refer to section 3.1.2.2).

Table 4-1

Sector of supply chain	Risk factor	Control measure	GFSI requirements
Every step of production and processing	Traceability	A system in place to record where product has been received from, and supplied to, at each step in the chain.	• Procedures for product identification from the supplier (minimum one step back) through any process undertaken to the food recipient and packaging (minimum one step forward). • Traceability system is tested and documented. • Incident management including product recall and withdrawal implemented and tested regularly.
	Skills and knowledge	Ensure adequate skills and knowledge to manage food safety correctly.	• All employees are trained, and retrained when necessary, to have an understanding of food safety commensurate with their activity. • Effective procedures and instructions shall be established, implemented and maintained for all processes and operations having an effect on food safety. • Agricultural workers trained and qualified for the use and application of agricultural chemicals. • Employees and contractors involved in building and equipment evaluation, specification, purchase and hygienic design to be trained appropriate to their task.
	Human activity	Ensure personal health and hygiene of workers - to manage/minimise introduction of or amplification of contamination.	• Public facilities including hand washing and toilet facilities, designed and operated to minimise food safety risks. • Personal hygiene standards shall be established, implemented and maintained to minimise food safety risks. It applies to employees, contractors and visitors. • Suitable protective clothing provided to minimise food safety risks • People suffering from or to be a carrier of a disease or illness likely to be transmitted through produce to be screened and reported to management and restricted entry to food handling area, subject to legal restrictions in the jurisdiction.

	Animals and pest activity	Reduce and manage incursion of animals and pests - to manage/minimise introduction of contamination.	• Based on risk assessment, operations to assess potential contamination associated with wild and domestic animals. • Procedure implemented to prevent, monitor and control or eliminate the risk of pest infestation at the site. • Buildings and equipment designed and constructed to avoid favourable growth conditions (for microorganisms, pests and their harbourage), appropriate to their intended use. • Structures, including all adjoining rooms, equipment, facilities and feeding systems shall be located, designed and constructed to facilitate proper cleaning and pest control.
	Waste management	Ensure waste is appropriately collected and disposed of so it does not introduce contamination.	• An appropriate housekeeping, cleaning and disinfection programme shall be established, implemented, maintained and monitored. Its effectiveness in eliminating food safety risks shall be measured. • Waste management system to control waste collection, storage and disposal of waste including waste water, drainage and trademarked material.
	Equipment	Design, construction and maintenance of equipment – to minimise introduction of contamination.	• Appropriate building/equipment hygienic design principles to be adopted based on risk assessment conducted by a competent multidisciplinary team and evaluated throughout their life cycle from the construction, until the end of their intended life. • The hygienic design risk assessment reviewed and change control adopted when changes occur, or at a minimum frequency defined by applicable laws and regulations. • Buildings and equipment shall meet all hygiene standards/guidance and cleaning objectives to avoid favourable growth conditions (for microorganisms, pests and their harbourage), appropriate to their intended use. • Equipment used to measure parameters critical to ensure food safety to be identified, inspected, calibrated and maintained regularly. • Equipment and containers coming into contact with produce are non-toxic and ensured they are cleaned, stored, disinfected and maintained to avoid contamination.
Production environment	Growing site/ facility and growing substrate	Initial site assessment to ensure it is fit for purpose; that prior and current use does not pose a food safety risk. Ongoing site management to minimise introduction of contamination during changes in environmental/climatic conditions	• Land used for production is assessed, maintained and control measure implemented for hazards and contamination. • Structures and facilities are located, designed and constructed with good hygiene practices to facilitate proper cleaning and pest control. • Adequate drainage and waste disposal systems and facilities shall be provided. • Avoid potential for contamination of water courses, highways and neighbouring fields with animal waste and silo seepage. • Water tested for microbial and chemical contaminants due to risks of environmental contamination including intermittent or temporary contamination (e.g. heavy rain, flood).

		Planting material	Manage inputs so they don't contaminate produce or growing environment.	• All inputs including purchased materials conform to specifications as well as food safety and regulatory requirements. • Suppliers, including procurement in emergency situations conform to the documented specified requirements or specifications, and the supplier has been evaluated and recorded. • Outsourced processes that may have an effect on food safety to be identified, controlled and documented.
		Crop inputs - Soil/substrate amendments, fertilisers (including organic waste, manure)	Manage inputs so they don't contaminate produce or growing environment.	• Proper treatment procedures and appropriate delays between application of agricultural inputs and harvesting apply to reduce or eliminate pathogens in manure, biosolids and other natural fertilisers. • As a minimum, the use of untreated biosolids shall be prohibited. • Procedures required to take the World Health Organisation (WHO) guidelines on the safe use of waste water and livestock excreta in agriculture. • Chemical residues to follow applicable legislation (in both countries of production and intended sale), or by the Codex Alimentarius Commission. • Application of agricultural and veterinary inputs is managed properly to minimise the potential for microbial or chemical contamination. • Documentation of agricultural chemical applications maintained. • Agricultural chemicals be correctly labelled, stored, and disposed of in a manner that does not pose a risk of contaminating crops. • There shall be a provision for handling product that has dropped to the ground.
		Water (including stored water)	Manage water quality and application method so water does not contaminate food.	• Water source assessed, tested and control measures implemented for microbial and chemical contaminants based on risk assessment, source and the risks of environmental contamination (e.g. heavy rain, flooding etc.). • If agricultural water is stored, tanks, containers or cisterns shall not be a source of contamination for water or product.

Harvest and field packing	Packaging material	Packaging for retail must ensure packaging is fit for purpose (food grade if direct contact with food) and does not contaminate food.	• Procedures to minimise risk of contamination and cross-contamination of purchased materials, work in progress, rework, packaging and finished product covering all aspects of food safety. • Emergency procurement and outsource processes to ensure that packaging conforms to the specifications, and the supplier has been evaluated and recorded. • Procedures to manage packaging materials printed with product ingredient list(s), allergens, identification code and other critical information and prevent mis-printing. • Finished product are labelled in compliance with the applicable food safety legislation in the country of intended sale. • Procedures established, implemented and maintained to ensure printed materials are not mixed or intermingled with other materials including in-process and reworked materials. • Packaging materials to be stored in designated areas and handled under controlled conditions to minimise food safety risks.
	Transport	Transport should keep food appropriately safe for next stages.	• All containers and vehicles used for the storage and transportation shall be suitable for the intended purpose to minimise food safety risks. • A product release procedure shall be established, implemented and maintained. • Food to be held or stored in designated areas and handled under controlled conditions to minimise food safety risks. • Purchased materials, work in progress and finished products are used in the correct order, and within the allocated shelf life when applicable.
Post-harvest activities /packing shed	Extreme weather events e.g. flooding, excessive dust	Ensure produce received is safe and suitable for primary processing. Manage effects of changes in environmental/ climatic/weather conditions – to minimise introduction of contamination (e.g. removal of damaged produce, sanitation regime).	• Appropriate procedures for the reception of purchased materials, implemented and maintained to assure that only materials that meet food safety requirements are accepted. • Procedures to prevent or minimise risk of contamination and cross-contamination of purchased materials, work in progress, rework, packaging and finished product covering all aspects of food safety. • Based on risk assessment, water to be tested for microbial and chemical contaminants and the frequency to depend on water source and the risks of environmental contamination (e.g. heavy rain, flooding etc.). • A risk-based approach to define the microbiological environmental monitoring programme to reduce the risk of food contamination.

		Washing and sanitising	Ensure post-harvest water does not introduce contamination. Ensure any sanitation step adequately removes/ reduces microbial contamination.	• Procedures to minimise food contamination in the indoor primary production facilities, for handwashing, equipment and post-harvest washing, with appropriate facilities for its storage and distribution. • Based on risk assessment potential contamination is minimised based on the source of the water, water storage, and environmental contamination risks. • Water quality is monitored through testing. • Food parameters critical to food safety are tested. • Air, compressed gases, and water (including ice and steam) in any form which could impact food safety shall be regularly monitored, and adequately stored and handled in order to minimise food safety risks. • Water not intended for use in food production, if available on site, shall be managed to minimise food safety risks.
		Facilities – poorly designed or maintained (incl. cleaning)	Design, construction and maintenance/cleanliness of facility – to minimise introduction of contamination. Premises and equipment should not introduce unmanaged hazards.	• Structures, equipment, and facilities to be located, designed and constructed to facilitate proper cleaning and pest control. • Design and layout shall permit compliance with good hygiene practices including protection against cross contamination between and during operations. • Adequate drainage and waste disposal systems and facilities shall be provided. • Hand washing, toilets and public facilities to be designed and operated to minimise food safety risks. • Cleaning facilities, equipment and chemical materials suitable for their intended use stored and used appropriately.
		Packaging material	Packaging for retail must ensure packaging is fit for purpose (food grade if direct contact with food) and does not contaminate food. Consider other packing for transport/ bulk transfer also fit for purpose.	• Procedures to minimise risk of contamination and cross-contamination of purchased materials, work in progress, rework, packaging and finished product covering all aspects of food safety. • Food shall be held or stored in designated areas and handled under controlled conditions to minimise food safety risks. • Purchased materials, work in progress and finished products are used in the correct order, and within the allocated shelf life when applicable. • Finished product are labelled in compliance with the applicable food safety legislation in the country of intended sale.