Supporting  
Victorian   
Agriculture

Guide: Food Safety for

Seed Sprout Producers

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Food safety for seed sprout producers

# INTRODUCTION

Sprouted seeds are used as a source of food because of their taste, texture and nutritional value. However, they have the potential to cause food borne illness in people if the seed sprouts become contaminated with bacteria, such as *E.coli*, *Salmonella* and *Listeria monocytogenes*. Sprouted seeds represent a unique microbial food safety concern due to the potential for these bacteria to grow rapidly during the germination and sprouting of the seeds. Nearly all sprout related outbreaks have been traced to bacteria in seed. In the past 20 years, at least 39 major outbreaks of food borne illness across the United States, Canada and Europe have been caused by the consumption of contaminated seed sprouts. In Australia, a number of product recalls have taken place when sprouts have tested positive for these bacteria.

Sources of potential food safety hazards that may contaminate sprouts during sprout production, packing, handling, storage and transportation can be the seeds used, equipment, water and medium supporting sprout growth. Chemicals used or present in a sprout production environment, and metal, glass, wood or plastic objects present in or used for sprout production and handling, may present food safety hazards.

# The Production and Processing Standard for Seed Sprouts

In 2012, Food Standards Australia New Zealand (FSANZ) introduced a standard into the Food Standards Code: Standard 4.2.6 - Production and Processing Standard for Seed Sprouts. The Standard is a national standard that applies to sprout processors in all states and territories. In Victoria, the Standard created a new set of legal requirements under the *Food Act 1984* (the Act) for seed sprouts.

The Standard aims to minimise the risk of food borne illness by setting out requirements for managing the hazards associated with the production of seed sprouts. A hazard is anything that could cause harm to consumers, and could be biological (eg *Salmonella* or aflatoxin), physical (eg glass particles) or chemical (eg cleaning products).

There are six requirements covered in the Standard which are general food safety management, receiving of seed, inputs, decontamination, traceability and sale or supply.

Businesses must also address other requirements of the Food Standards Code, including those outlined in:

Standard 1.2.1: Application of Labelling and Other Information Requirements

Standard 1.6.1: Microbiological limits in food

Standard 3.2.2: Food Safety Practices and General Requirements

Standard 3.2.3: Food Premises and Equipment

Standard 4.1.1: Primary Production and Processing Standards – Preliminary Provisions

## Does the standard apply to you and your business?

The Standard covers seed sprouts that are sold to consumers, but not directly to the public, with all or part of the seed, including, alfalfa, mung beans, onion, broccoli, radish or any other type of sprout that includes the seed or part of the seed in the final product. The Standard must be applied by any sprouting operations in its entirety.

The Standard applies if you conduct any or all of the following activities for producing seed sprouts:

(a) decontamination of seed or seed sprouts;

(b) soaking of seed;

(c) germination or growth of seed;

(d) harvest of seed sprouts; or

(e) washing, drying or packing seed sprouts.

## Using this document

This document includes information, guidance and templates to assist you in meeting the requirements of the Standard and manage the food safety hazards associated with the production and processing of seed sprouts.

The document is in three sections:

(a) guidance for safe production and processing for seed sprouts

(b) a food safety management statement template for your use

(c) a sample plan is included to assist you that includes record keeping templates.

# COMPLYING WITH THE STANDARD

As a sprout processor, it is a legal requirement to ensure that the seed sprouts you produce are safe to eat. It is your responsibility to manage the hazards associated with seed sprout production. You must also ensure that your staff understand the importance of managing the hazards and have the necessary skills and knowledge relevant to their work.

The Standard requires you to have, and to follow, a food safety management statement. A food safety management statement describes your commitment to having appropriate systems in place. A food safety management statement can be:

* the approved food safety management template included in this document; or
* part of a food safety management system which has been recognised by Agriculture Victoria.

**Note: Significant penalties apply for a person found not to be complying with a requirement imposed by the Food Standards Code.**

## What do you have to do?

You must –

* notify Agriculture Victoria if you are undertaking seed sprout production activities;
* complete and follow your food safety management statement;
* regularly review activities against your food safety management statement;
* be able to produce the statement if asked to do so by an authorised officer.

## Roles and responsibilities

### Agriculture Victoria

Agriculture Victoria has general oversight of the administration of the Act as it applies to producers and processors of seed sprouts. This includes providing guidance to businesses, auditors and authorised officers to promote compliance with the Standard.

### Department of Health & Human Services (DHHS)

DHHS has general oversight of the administration of the Act, and responds to food incidents and emergencies, and coordinates a response when more than one municipality is involved.

# GUIDANCE FOR PRODUCING SAFE SEED SPROUTS

## Receiving seed

### 1 Requirements of the Standard

The Standard states that:

***‘A sprout processor must not produce or process seed sprouts if the processor ought reasonably know or suspect that the seed is of a nature or in a condition that would make the seed sprouts unacceptable’.***

### 2 Guidance

Seeds have been implicated as a main source of contamination leading to the production of sprouts that are unsafe for human consumption. Contamination of seed prior to germination can come from bacteria that live in the soil, previous use of fields by grazing animals, pests, irrigation water and the processing facility itself. Establishing systems to minimise the possibility of using contaminated seed, or allowing seed to become contaminated, is essential if ensuring the production of sprouts which are safe to eat.

Actions for management of seed may include -

* purchasing of seed from reputable and reliable suppliers;
* testing seed for the presence of bacteria such as *E.coli, Listeria monocytogenes* and *Salmonella*;
* inspecting seeds and packaging for physical damage and contamination. Discard the seed if necessary;
* storing seed in clean, dry facilities with effective measures for control of pests such as rats and insects;
* storing seed in clean, dry sanitised containers to prevent mould and bacterial growth; and
* screening of seed for soil and other debris before further processing.

### 3 Record Keeping

Sprout processors must keep records to provide evidence that systems have been effectively implemented.

Records may include details of -

* receipts from suppliers which show contact information and batch details;
* results of testing;
* inspection of pest control stations.

## Inputs

### 1 Requirements of the Standard

The Standard states that:

***‘A sprout processor must take all reasonable measures to ensure inputs do not make the seed sprouts unacceptable’.***

### 2 Guidance

The major inputs in the production of sprouts are water, chemicals and human contact.

a Water

Water can serve as a carrier for many diseases that can be transmitted to consumers through the consumption of sprouts. It can also be contaminated with unwanted chemicals.

An effective way for sprout processors to make sure that water used is drinking (potable) water. This includes any water used for washing sprouts, spray mist, soaking, making ice, cleaning, sanitising and hand-washing.

The Australian drinking water requirements specify that no *E.coli* should be detected in 100ml of water. If a processor is unsure of the quality of the water used in the sprouting operations samples should be sent for testing. Records should be kept to show that the quality of the water meets the Standard.

When disposing of waste water, requirements of relevant authorities such as the local council and the Environment Protection Agency must be considered.

Actions for control of water may include-

* ensuring water used at all stages of sprout production is clean, fresh potable water; and
* having a system for disposal of waste-water.

b Chemicals

Sprouts can become contaminated with chemical residues through the improper use of chemicals. It is very important to understand which chemicals to use and how to use them.

The Food Standards Code prescribes processing aids, including permitted washing agents (Standard 1.3.3).

Actions for control of chemicals may include-

* using only reputable chemical suppliers;
* using appropriate cleaning and sanitising products (refer appendix 2); and
* having systems to ensure proper storage, use and disposal of chemicals in accordance with manufacturer’s directions.

c Human contact (health and hygiene)

Contamination of the sprouted seeds through human contact is another way that seeds sprouts can become unacceptable. Training staff in good hygienic practices and having hand washing facilities available are important aspects to consider.

Actions for managing staff hygiene may include-

* having suitable hand-wash stations and restrooms;
* ensuring all staff are trained in good personal hygiene practices; and
* ensuring that people who are unwell do not work with seeds or seed sprouts.

### 3 Record Keeping

Sprout processors must keep records to provide evidence that systems have been effectively implemented.

Records may include details of -

* results of testing of any water used;
* chemicals used for cleaning and sanitising;
* material safety data sheets for all chemicals in use; and
* staff training in hygienic food handling practices.

## Decontamination

### 1 Requirements of the Standard

The Standard states that:

***‘A sprout processor must implement effective decontamination processes prior to sale or supply of seed sprouts’.***

### 2 Guidance

Seed disinfection or decontamination is usually chosen over a treatment for sprouts because of the fragile nature of the sprout. Disinfection appears to be more effective to remove any bacteria from the seed before sprouting begins but care must be taken so the sprouts are not re-contaminated by bacteria from water, packing and processing environment and equipment or employees.

The process of producing seed sprouts involves the addition of moisture and warmth to induce sprouting. These conditions are also favourable for the growth of bacteria. It is important that the seed sprouts undergo a decontamination process, which can be staged over a number of steps including seed decontamination and during the growing out phase and/or washing stage.

Technical guidance for decontamination during sprout production is provided (refer Appendix 2).

Decontamination activities may include-

* having a cleaning and maintenance schedule for handling and processing equipment and machinery;
* disinfecting seed and sprouts (during the growing out phase and washing stage) prior to packaging for sale;
* preventing contamination of seed and sprouts during rinsing, germination and harvest;
* ensuring hot water is available for cleaning of equipment;
* only using chemicals for their intended purpose in accordance with label directions;
* maintaining the facility to minimise entry of dirt, dust, rodents, insects or pests or animals into storage, packing and processing areas;
* keeping storage, seed rinsing and decontamination, germination and packaging areas separate from each other to prevent cross contamination; and
* monitoring for bacteria during germination of seeds and on finished sprouts.

### 3 Record Keeping

Sprout processors must keep records to provide evidence that systems have been effectively implemented.

Records may include details of -

* cleaning and maintenance of the facility, equipment and machinery;
* details of each decontamination step; and
* sampling / testing plans and results of tests.

## Traceability

### 1 Requirements of the Standard

The Standard states that:

***‘A sprout processor must have a system to identify –***

***(a) from whom seed or seed sprouts were received;***

***(b) to whom seed or seed sprouts were supplied’.***

### 2 Guidance

Sprout processors must be able to identify the date on which sprouts were packed and be able to trace the sprouts back to the batch of seeds received. Similarly records should be able to demonstrate which seeds were used to produce specific lots of sprouts, and to whom they were supplied.

Activities to ensure traceability may include-

* identification of seeds and sprouts during all stages of processing;
* labelling of packaging and shipping containers;
* implementing a system for keeping records of the sale of sprouts; and
* preparation of a Food Recall Plan (a requirement of the Food Standards Code, Standard 3.2.2).

Processors must comply with requirements defined in the Food Standards Code for labelling, including that-

* labels must be legible, prominent, distinct from the background, and in English (Standard 1.2.9); and
* packages must be marked with a ‘use-by’ date (Standard 1.2.5).

### 3 Record Keeping

Sprout processors must keep records to provide evidence that systems have been effectively implemented.

Records may be -

* orders, invoices and delivery dockets that contain details of batch identification and other information; or
* templates supplied in the Food Safety Management Statement.

## Sale or Supply of Seed Sprouts

### 1 Requirements of the Standard

The Standard states that:

***A sprout processor must not sell or supply seed sprouts for human consumption if the sprout processor ought reasonably know or reasonably suspect that the seed sprouts are unacceptable.***

### 2 Guidance

Seed sprouts destined for human consumption must not be sold or supplied if there is a likelihood that the sprouts are unsafe to eat. If in any doubt the seed sprouts must not be sold or supplied.

The definition of ‘an unacceptable food’ is if it is unsafe, unsuitable or contains a substance or organism, which a reasonable person would regard as making that food unfit for human consumption (Standard 4.1.1).

Activities to ensure sprouts are safe to eat may include-

* following a Food Safety Management Statement;
* using food grade packaging materials;
* sampling and analysing sprouts to ensure microbiological limits are not exceeded. Limits are provided in the Food Standards Code, Standard 1.6.1; or
* where appropriate, keeping sprouts at a cold temperature (5OC or less) to minimise microbial growth.

### 3 Record Keeping

Sprout processors must keep records to provide evidence that systems have been effectively implemented.

Records may include:

* test certificates of sprouts; and
* temperature measurements of cold storage areas.

# Appendix 1: Hazards

### 1. Food safety hazards

A food safety hazard is anything that could cause harm to the consumer, and can be biological (eg *Salmonella* or *E.coli*) , chemical ( eg cleaning products) or physical (eg glass particles).

### 2. Biological

Biological hazards are the main hazards affecting sprouts that pose a risk to human health.

*E.coli,* *Salmonella* and *Listeria* *monocytogenes* are the main bacteria associated with sprouts. Illness caused by these bacteria can affect anyone; however, they are more commonly reported in children less than five years of age, the elderly and those with compromised immune systems. The most common symptoms are diarrhoea, fever, stomach cramps, nausea, vomiting and headache. In extreme cases the illness can result in death.

###### a. Sources of *E.coli*, *Salmonella* and *Listeria monocytogenes*

The main sources of *Salmonella* and *E*.*coli* are animal and human faeces. Animal sources include animals grazing in the field where sprout seeds are grown, contaminated water used during the growing of the seed, bird and rodent faeces and urine contamination during harvest and storage of the seed. Human sources through poor hygiene practices by sprout handlers (eg not washing their hands after the using the toilet) and by the use of contaminated water in the production process.

*Listeria monocytogenes* is able to grow at refrigerated temperatures and therefore can grow under these conditions in the sprouted product. Sources are from the seed growing environment such as soil and water and it readily establishes itself in factory environments in areas that are wet and cool such as drains, under floor mats, in condensation areas and insufficiently cleaned equipment. It has been found in sprouting water after seed decontamination and post-washing contamination is a significant route of contamination.

###### b. Contamination of sprouts

Bacteria such as *E.coli*, *Salmonella* and *Listeria* *monocytogenes* may contaminate sprouts as a consequence of:

* using seeds that are contaminated;
* failing to properly decontaminate the seeds during the production process;
* poor handling and storage practices for seed and sprouts; or
* using contaminated water during the production process.

### 3. Chemical

Cleaning, processing and pest control products are often toxic and can have harmful effects if consumed. Contamination can also arise from the incorrect use of processing chemicals or sanitisers used during sprout production. Machinery lubricants can also contaminate sprouts during production.

### 4. Physical

Physical items that could contaminate seeds and sprouts, include glass, hair, insects, plastics and wood. The risk of these contaminants can be low due to production processes such as cleaning, sorting and washing of seeds and sprouts. Appropriate measures must be put into place by the producer to ensure the risks of these items contaminating the sprouts are minimised.

**5. Allergen**

Soy products are considered a declarable allergen by the Food Standards Code Standard 1.2.3. Labelling of soy based sprouts therefore must clearly identify soy as an ingredient. Further, the sprout processor must ensure that there is no cross-contact of soy sprouts into other non-soy containing sprouts. Measures that control cross-contact include clearly segregating seeds during storage, segregating sprouting in separate equipment and/or using the same equipment after thorough cleaning, cleaning packing and washing equipment after soy sprouts have been processed and monitoring food contact surfaces for soy protein residues.

# Appendix 2: Guidelines for Decontamination

As part of your food safety management statement evidence must be provided to demonstrate that effective decontamination steps are used in the sprout production process.

### 1. Seed

Seed decontamination can be carried out by washing the seeds in a high concentration of sanitiser.

During seed production, conditioning and storage, the use of programs such as Good Agricultural Practices (GAPs) and Good Handling Practices (GHPs) is recommended, with the aim of preventing microbial pathogen contamination of seeds.

### 2. Sprouts

Effective decontamination steps can also be achieved during washing (if the sprouts have to be washed to remove husks or unviable seeds) by incorporating a suitable sanitiser in the wash bath and by measuring to ensure appropriate levels are maintained. The processor is required to show that they have implemented an effective decontamination step prior to sale. Effectiveness of decontamination can be shown by testing of product and maintaining records of sanitiser levels used in the decontamination step.

Every business takes a different approach with type of sanitiser used and the level of sanitiser used, however the type of sanitiser and the level used must be described in the food safety management statement.

There are a number of chlorine-based sanitisers which can be used at various steps in the sprouting process depending on the type of seed sprout being produced.

In addition to seed treatment, any washing steps used during sprout production are an opportunity to introduce decontamination steps.

The decontamination step or steps should be designed by the sprout producer as part of their process, and must be fully described in the food safety management statement.

### 3. Facilities and Equipment

Food Safety Practices and General Requirements

Standard 3.2.2 of the Food Standards Code specifies process control requirements to be satisfied at each step of the food handling process. Some requirements relate to the receipt, storage, processing, display, packaging, distribution disposal and recall of food. Other requirements relate to –

* the skills and knowledge of food handlers and their supervisors;
* the health and hygiene of food handlers;
* the cleaning, sanitising, and maintenance of premises and equipment.

### Food Premises and Equipment

Standard 3.2.3 of the Food Standards Code provides requirements to ensure that, where possible, the layout of the premises minimises opportunities for food contamination. Food businesses are required to ensure that their food premises (including floors, walls and ceilings), fixtures, fittings, equipment and transport vehicles are designed and constructed to be cleaned and, where necessary, sanitised. Businesses must ensure that the premises are provided with the necessary services of water, waste disposal, light, ventilation, cleaning and personal hygiene facilities, storage space and access to toilets.

# Appendix 3: other

### 1. Pest control programs

An active pest control program is necessary in a sprout operation because any animal or pest may cause a biological contamination problem directly on pre sprouted seeds, sprouted seeds, packaging material or sprout contact surfaces. Procedures which deal with potential pests in the sprout processing operation should be described and documented. An effective pest control program consists of comprehensive records of what baiting is in place, what sort of bait is being used and where bait stations are located. Also the use of bird control procedures must be implemented if birds are a problem in the premises. It is recommended that a pest control contractor be used to deal with pest issues, and that they provide necessary records to include in a food safety management statement.

### 2. Seed suppliers

In order to fulfil the requirement of seed food safety, an approved seed supplier program is required. This is very useful when there are multiple suppliers of the same type of seed or multiple suppliers of different type of seeds. It is recommended that suppliers be requested to provide a statement or certificate of seed purity. Also it is important to inspect seed on receipt, and maintain a record of the inspections.

Information provided by the supplier should be kept as part of business records.

### 3. Good sprout handling practices

A sprout producer should establish policies and procedures for good handling practices from seed to final sprout product. Some of the items that should be covered include-

* storage;
* washing step/s;
* sanitation;
* handling practices;
* packaging;
* traceability;
* waste disposal; and
* storage.

Storage areas must be suitable for sprouts and temperatures should be controlled for packaged sprouts at 5°C or below as required by the Food Standards Code Standard 3.2.2 and recorded during storage. Issues of contamination prevention and stock rotation should be addressed.

### 4. Staff training program

Staff working in a sprout processing facility must be trained in order for them to perform their jobs correctly. In terms of the food safety management statement, staff must be trained so that good sprout handling procedures are followed. In particular staff should be trained in good personal hygiene, cleaning and sanitation, correct storage of sprouts, correct storage and use of chemicals. Training can be carried out internally by more experienced staff or externally by professional trainers. All training given must be recorded to show what training was done and the dates of training and who was trained.

### 5. Product recall program

In case a food safety hazard to consumers is identified and a product recall must be initiated, two important documents are required. Firstly, traceability records of who supplied the seed, and who purchased products is required and secondly the procedure to initiate the recall must be followed.

The procedure for initiating a food recall is shown at the site www.foodstandards.gov.au/industry/foodrecalls.

# Appendix 4: Food safety management PLAN

**Food Safety Management Plan  
 for Seed Sprout Producers**

**Incorporating the food safety management statement**

This document forms part of the *Guide: Food Safety for Seed Sprout Producers*, and must be read in conjunction with that document.

**Food Safety Management Statement**

A requirement of the Production and Processing Standard for Seed Sprouts.

This section is your food safety management statement and includes a food safety plan and templates for you to document your business details, procedures and records. A sample food safety plan is provided to assist you.

Your food safety management statement should form part of your overall business system. There is no need to duplicate systems and records that you already have in place. You must be able to produce evidence that you are complying with the standard if asked by an authorised officer.

It is recommended you review this statement either annually or if your business details or activities change.

**Note: Significant penalties apply for a person found not to be complying with a requirement imposed by the Food Standards Code.**

**Commitment to food safety**

I, the owner or the most senior person associated with this sprout processing operation, make a commitment to supply safe food and also make a commitment to support the development, implementation and maintenance of this food safety management statement.

Signed………………………………………………….. Date…………………………………………….

Food Safety Management Plan

Use this template to identify the activities that are applicable and include the records and notes as part of the Plan. Systems already in place do not need to be duplicates as long as records can be provided to demonstrate compliance with the standards in the Food Standards Code. This Plan supports the Food Safety Management Statement.

Refer to the corresponding parts of the guidance section.

* Activity statements are identified in the first column.
* Records and relevant procedures or documents are listed in the second column.
* Notes against the activity statement can be documented in the third column. If not applicable then record N/A.
* Examples of record keeping sheets are provided in the following section.

|  |  |  |
| --- | --- | --- |
| **Receiving seed** | | |
| Activity statements | Record / Document | Your records and notes |
| Seed is purchased from reputable and reliable suppliers |  |  |
| Seed is tested for the presence of pathogens such as *E.coli*, *Listeria* and *Salmonella* |  |  |
| Seed and packaging are inspected for physical damage and contamination. Seeds are discarded if necessary |  |  |
| Seed is stored in clean, dry facilities with effective measures for control of pests such as rats and insects |  |  |
| Seed is stored in clean, dry sanitised containers to prevent mould and bacterial growth |  |  |
| Seed is screened for soil and other debris before further processing |  |  |
| Any other activities relevant to your business? |  |  |

|  |  |  |
| --- | --- | --- |
| **Inputs - water** | | |
| Activity statements | Recording guide | Your records and notes |
| Water used at all stages of sprout production is clean, fresh potable water |  |  |
| Waste water is disposed of effectively |  |  |
| Any other activities relevant to your business? |  |  |

|  |  |  |
| --- | --- | --- |
| **Inputs - chemicals** | | |
| Activity statements | Recording guide | Your records and notes |
| Chemicals are purchased from a reliable supplier |  |  |
| Appropriate cleaning and sanitising products are used. |  |  |
| Chemicals are stored and used in accordance with manufacturer’s directions |  |  |
| Any other activities relevant to your business? |  |  |

|  |  |  |
| --- | --- | --- |
| **Inputs - Human Contact (health and hygiene)** | | |
| Activity statements | Recording guide | Your records and notes |
| Suitable hand wash stations and restrooms are provided |  |  |
| Staff are trained in good personal hygiene practices |  |  |
| People who are unwell do not work with seeds or seed sprouts |  |  |
| Any other activities relevant to your business? |  |  |

|  |  |  |
| --- | --- | --- |
| **Decontamination** | | |
| Activity statements | Recording guide | Your records and notes |
| Handling and processing equipment and machinery is cleaned and maintained |  |  |
| Seeds and sprouts (during the growing out phase and washing stage) are decontaminated prior to packaging for sale |  |  |
| Systems are in place to prevent contamination of seed and sprouts during rinsing, germination and harvest |  |  |
| Hot water is available for cleaning of equipment |  |  |
| Systems in place to minimise entry of dust, rodents, insects or animals |  |  |
| Storage, seed rinsing and decontamination, germination, packaging and storage areas are kept separate from each other to prevent cross contamination |  |  |
| Germinating seeds and finished sprouts are monitored for harmful bacteria |  |  |
| Any other activities relevant to your business? |  |  |
| **Traceability** | | |
| Activity statements | Recording guide | Your records and notes |
| Seeds and sprout are identifiable and traceable at all stages of processing |  |  |
| Packages and shipping containers are labelled appropriately  Labels must be legible, prominent, distinct from the background, in English and packages are date marked |  |  |
| Sales of sprouts are recorded |  |  |
| A Food Recall Plan is in place |  |  |
| Any other activities relevant to your business? |  |  |

|  |  |  |
| --- | --- | --- |
| **Sale or supply** | | |
| Activity statements | Recording guide | Your records and notes |
| Food grade packaging material is used |  |  |
| Sprouts for sale are sampled and analysed to ensure microbiological (bacterial) limits are not exceeded |  |  |
| Sprouts are stored at a temperature not greater than 5OC |  |  |
| Any other activities relevant to your business? |  |  |

**Sample food safety management plan**

|  |
| --- |
| The following is a completed example of a food safety management plan. In some cases more than one example response is given to illustrate different scenarios. Records and notes should reflect specific business activities (they may not be the same as in this example). |

|  |  |  |
| --- | --- | --- |
| **Receiving seed** | | |
| Activity statements | Recording guide | Your records and notes |
| Seed is purchased from reputable and reliable suppliers | Record name & address of suppliers & retain copies of the receipts, the grower’s spray diary & lab report for pesticide screening for each batch of seeds | Example:  We purchase all our seed from xx (name & address of supplier)  We fill out the “Seed Suppliers List“& the “Seed Receiving Sheet”  We retain  - all receipts  -a copy of the spray diary from the grower for each batch of seeds  - a copy of the Lab report for pesticide screening for each batch of seeds  We reject seeds that  - do not have a copy of the spray diary  - do not have a lab report for pesticide screening |
| Seed is tested for the presence of pathogens such as *E.coli*, *Listeria* and *Salmonella* | Retain reports from NATA accredited or equivalent laboratory for each batch of seed, prior to use, for E. coli, Listeria & Salmonella | Example:  We test all seed for the presence of E. Coli, Listeria & Salmonella and retain copies of the Lab Reports.  We reject seeds that have  -detectable levels of E. Coli/Listeria/Salmonella. |
| Seed and packaging are inspected for physical damage and contamination. Seeds are discarded if necessary | Record date of receival of seeds & details of inspection including condition of packaging (i.e. clean & intact) & condition of delivery vehicle (clean, no evidence of pests) | Example:  We inspect all deliveries of seed for condition of packaging & contamination of the seed and inspect the delivery vehicles to ensure they are clean with no evidence of pests.  We fill out the “Seed Receiving Sheet”  We reject seeds that  - have dirty or broken packaging  - are delivered in dirty vehicles  - are delivered in vehicles with evidence of pests (e.g. rodent dirt) |
| Seed is stored in clean, dry facilities with effective measures for control of pests such as rats and insects | Record how often storage areas are checked for cleanliness, dryness & pest activity  Retain Cleaning records for storage areas  Record how you keep storage areas pest proof  Retain Pest control records: including service reports | Example:  We check our storage areas every day to ensure they are clean, dry & free from pests and record any issues and actions taken in our “Production Diary”  We dispose of seeds that  - have been exposed to water  - have evidence of pest activity  - have become contaminated  We have pest proofed our storage area, including installing seals under the door, plugging holes between the walls & floors & ensuring the door is always closed when not in use.  We have an agreement with a licensed Pest Contractor to service our premises monthly |
| Seed is stored in clean, dry sanitised containers to prevent mould and bacterial growth | Record Cleaning / Sanitising procedures for containers & retain records | Example:  We store our seed in containers that have been cleaned, dried & sanitised and record this in our “Production Diary”  We only use detergents & sanitisers as per the manufacturers’ instructions (Refer to Section Inputs - Chemicals) |
| Seed is screened for soil and other debris before further processing | Record your Seed Screening Procedure & retain records | Example:  We screen our seeds, prior to use, over a X mm sieve  The date of screening & seed batch # is noted in our ”Production Diary” |
| Any other activities relevant to your business? |  | None identified |

|  |  |  |
| --- | --- | --- |
| **Inputs - water** | | |
| Activity statements | Recording guide | Your records and notes |
| Water used at all stages of sprout production is clean, fresh potable water | Record evidence that water source is potable i.e. town water or other source (eg dam; bore; tank) with test result E. coli<1 cfu/100ml | Example:  Town water supply is used. No further treatment is undertaken  OR  Example:  Bore water is used and lab tested annually to ensure it is potable (i.e. E.Coli <1 cfu/100ml). Lab Reports are retained. |
| Waste water is disposed of effectively | Evidence that local council & EPA requirements are being met in regards to waste water disposal | Example:  We dispose of our waste water as per local council & EPA requirements  We retain emails from local council & EPA regarding the disposal of waste water requirements (updated copies are obtained on an annual basis) |
| Any other activities relevant to your business? |  | None identified |

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| --- | --- | --- |
| **Inputs - chemicals** | | |
| Activity statements | Recording guide | Your records and notes |
| Chemicals are purchased from a reliable supplier | Record name & address of suppliers & retain copies of the receipts & current safety data sheet (SDS) | Example:  We purchase all our chemicals from xx (name & address of supplier)  We retain  - all receipts  - a current copy of the SDS for each chemical \*  (\*– SDS have a 5 year currency) |
| Appropriate cleaning and sanitising products are used. | Retain SDS for each chemical used  Retain confirmation of suitability for use from the chemical supplier (e.g. Letter of Suitability / Product Technical Specification) | Example:  We retain a current copy of the SDS for each chemical  We retain a “letter of suitability” & “product technical specification” from the chemical supplier for all chemicals used |
| Chemicals are stored and used in accordance with manufacturer’s directions | Record how chemicals are stored  Record chemicals on Chemical Inventory  Retain current SDS & manufacturers’ usage instructions.  Document cleaning & sanitising procedures  Record cleaning & sanitising activities | Example:  We store all our chemicals in a locked cupboard, and we store all chemicals in their original containers and label any bottles/spray bottles of cleaning chemicals/ sanitisers that have been decanted/ diluted  We record all chemicals onsite on a chemical inventory We retain a current copy of the SDS for each chemical, and a copy of manufacturers’ instructions for use for each chemical  We have documented cleaning & sanitation procedures, and we record cleaning & sanitising activities in our “Production Diary”  We check the sanitiser strength, prior to use, via test strips and record in our “Production Diary” |
| Any other activities relevant to your business? |  | None identified |
| **Inputs - Human Contact (health and hygiene)** | | |
| Activity statements | Recording guide | Your records and notes |
| Suitable hand wash stations and restrooms are provided | Record the hygiene facilities you provide e.g. hot & cold running water, liquid soap, hygienic method for drying hands, hand sanitiser  Document cleaning procedures for hand wash stations & rest rooms & retain records | Example:  We provide hot & cold running water, liquid soap, disposable paper towel & hand sanitiser at all hand wash stations  Hand wash stations & restrooms are cleaned daily and records maintained in our “Production Diary” |
| Staff are trained in good personal hygiene practices | Document a Personal Hygiene Policy  Retain Training records for all staff in above policy | Example:  We have documented a “Personal Hygiene Policy” which includes:  -when & how to wash hands,  -restrictions on eating, drinking & smoking,  -rules for jewellery, clothing  -rules for covering cuts  We train all new staff in the above policy prior to commencing work & record in the “Staff Training Record Template” |
| People who are unwell do not work with seeds or seed sprouts | Staff suffering from a virus or communicable disease are not permitted to work with seeds or sprouts  Return to Work Policy (i.e. medical clearance)  Training records for all staff in above policy | Example:  Staff who have been ill with a virus or communicable disease must provide a medical clearance certificate that they are cleared to work with food  We train all new staff in the above requirement & record in the “Staff Training Record Template” |
| Any other activities relevant to your business? |  | None identified |
| **Decontamination** | | |
| Activity statements | Recording guide | Your records and notes |
| Handling and processing equipment and machinery is cleaned and maintained | equipment and machinery cleaning and maintenance schedule and records | We retain manufacturers’ instructions for all equipment.  We have a cleaning and maintenance program for all equipment.  We keep a record of all cleaning & maintenance activities in out “Production Diary” |
| Seeds and sprouts (during the growing out phase and washing stage) are decontaminated prior to packaging for sale | production records | We have documented procedures for each production step  We record activities in our “Production Diary” |
| Systems are in place to prevent contamination of seed and sprouts during rinsing, germination and harvest |  | Records of any issues and actions taken are kept in our “Production Diary”. |
| Hot water is available for cleaning of equipment. |  | We provide hot & cold running water |
| Systems in place to minimise entry of dust, rodents, insects or animals | Record facility inspections  Retain Pest control records: including service reports | We check our production areas every day to ensure they are clean, dry & free from pests and record any issues and actions taken in our “Production Diary”.  We have an agreement with a licensed Pest Contractor to service our premises monthly |
| Storage, seed rinsing and decontamination, germination, packaging and storage areas are kept separate from each other to prevent cross contamination |  | Separate rooms are used for each production step.  Records of any issues and actions taken are kept in our “Production Diary”. |
| Germinating seeds and finished sprouts are monitored for harmful bacteria | Record your testing program and results of testing | We test all batches of sprouts for the presence of E. Coli, Listeria & Salmonella and retain copies of the Lab Reports. |
| Any other activities relevant to your business? |  | None identified |
| **Traceability** | | |
| Activity statements | Recording guide | Your records and notes |
| Seeds and sprout are identifiable and traceable at all stages of processing | Record how labelling information can be traced backed to batch of seeds used | Example:  Labels include batch numbers |
| Packages and shipping containers are labelled appropriately  Labels must be legible, prominent, distinct from the background, and in English and packages are date marked | Record the labelling system for your packages & shipping containers  Record how labelling information can be traced backed to batch of seeds used | Example:  We attach our label to all punnets (which includes the product name and our business name & address) these labels are then ink printed with a use by date at the time of packing  12 punnets are packed into an open tray which includes the product name and our business name & address on the side  We label all trays with a use by date at the time of packing  Labels advise that soy products may be present.  (Use by dates can be traced back to the seed batch used via the “Production Diary”) |
| Sales of sprouts are recorded | A record sheet is provided or you can retain your invoices or delivery dockets | Example:  We record all our sales on the “Sales Dispatch Sheet” & retain all invoices & delivery dockets |
| A Food Recall Plan is in place | Document a Food Recall procedure based on latest copy of FSANZ Recall Protocol | Example:  We have documented a Food Recall Plan based on the latest FSANZ Recall Protocol. |
| Any other activities relevant to your business? |  | None identified |
| **Sale or supply** | | |
| Activity statements | Recording guide | Your records and notes |
| Food grade packaging material is used | Record how you ensure appropriate packaging is used | Example:  We purchase all packaging materials from (name & address of supplier).  We retain spec sheets for all materials. |
| Sprouts for sale are sampled and analysed to ensure microbiological (bacterial) limits are not exceeded | Record how you ensure bacterial limits are not exceeded | Example  We test all sprouts for the presence of E. Coli, Listeria & Salmonella and retain copies of the Lab Reports .  We have a procedure describing the taking of samples. |
| Sprouts are stored at a temperature no greater than 5OC | Record your standard practice for storing sprouts | Example:  We store sprouts in a refrigerator. The temperature is checked twice daily and results recorded in the “Production Diary”. |
| Any other activities relevant to your business? |  | None identified |

**Forms and Templates**

The following pages provide examples of forms and templates which may be useful as record keeping sheets for the implementation of a food safety plan.

**Decontamination Step Monitoring Sheet**

Decontamination monitoring to be recorded for every batch of sprouts made

Type of seed sprout\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Area | | Sanitiser Concentration as measured on the day | | | | | | | Corrective action | Recorded by |
| M | T | W | T | F | S | S |
| Seed decontamination (list sanitiser used and concentration required) | Batch |  |  |  |  |  |  |  |  |  |
| Batch |  |  |  |  |  |  |  |  |  |
| Wash water decontamination (list sanitiser used and concentration required) | Batch |  |  |  |  |  |  |  |  |  |
| Batch |  |  |  |  |  |  |  |  |  |
| Other decontamination step (list sanitiser used and concentration required) | Batch |  |  |  |  |  |  |  |  |  |
| Batch |  |  |  |  |  |  |  |  |  |

**Staff training record template**

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| --- | --- | --- | --- | --- |
| Name | Date of training | What training was provided | Who delivered the training | Staff signature |
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**Seed Suppliers List**

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| --- | --- | --- | --- |
| Seed Supplier  (Name and address) | Contact details  (name and number) | Goods Supplied  (Types of seeds supplied) | Additional notes |
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**Seed Receiving Sheet**

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| --- | --- | --- | --- | --- | --- | --- |
| Date | Supplier name | Seed Supplied | Visual inspection  (sealed bags) | Visual Inspection  (seeds) | Corrective Action | Signature |
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**Product Despatch Sheet**

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| --- | --- | --- | --- |
| Date | Batch No | Type of seed sprout | Where was it supplied to |
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**Business Details**

|  |  |
| --- | --- |
|  | |
| Name of business |  |
| Address of business |  |
| Contact |  |
| Phone number/s |  |
| E-mail |  |
| Postal address  (if different to above) |  |
| Type of seed sprouts produced  (e.g. alfalfa, mung beans, onion, broccoli, radish or any other type of sprout that includes the seed or any part of the seed in the final product) |  |
| Customers  (who buys the product?) | * Direct to shops * Direct to supermarket * To market agent * Direct to consumers * Other…………………………………………………………… |
| Other relevant details – name of organisation which has certified any food safety management system |  |