Food Safety Template for **Cheesemakers**

This is a pre-evaluated document.
If you add any procedures to this plan, or make any changes to the procedures provided, they must be evaluated.

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New Zealand Food Safety
Ministry for Primary Industries
Manatū Ahu Matua

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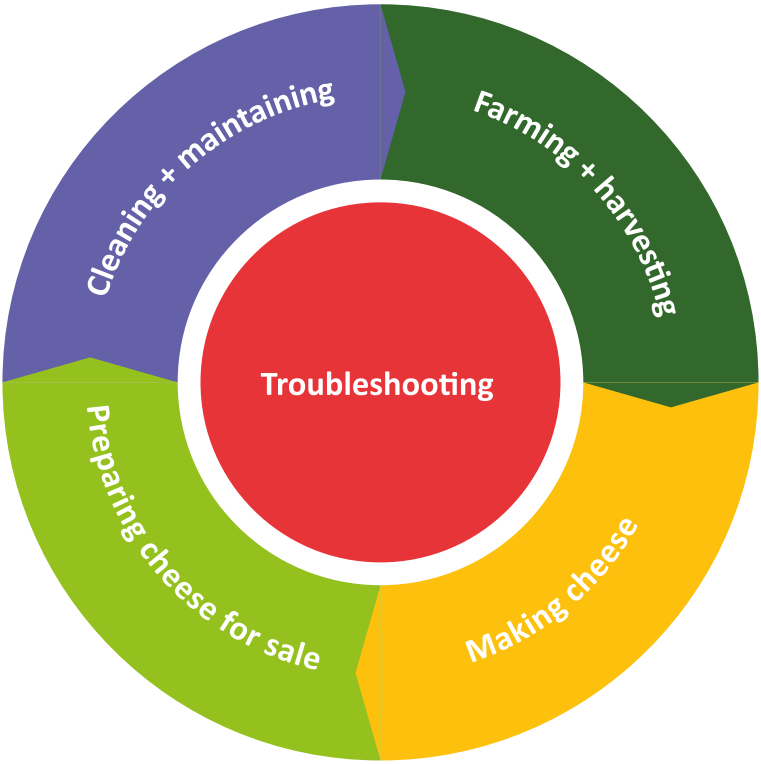

Business Details

Fill out your business details below

Business Details	
Legal name	
Trading name	

Activity: (tick as appropriate)
☐ farm dairy operator ☐ cheesemaker ☐ cheesemonger

Type of milk produced/used:
☐ pasteurised ☐ thermised ☐ raw

Intended use:
☐ general population

Unique location indicator (ULI) or farm address (if different from processing site):.....

Postal address	
Telephone	
Email	

Milk supplier *(only complete this if you make raw milk cheese. If you have more than 1 supplier, attach their details).*

Milk from: *(e.g. farm, milk your own, other)*.....

.....

Transported by: (who) .....

Final product distribution

Stored by: *(who)* .....

Transported by: *(who)* .....

Location(s) (including farm(s))	
Street address *(1)* *(premises where food business operates)*	
Water supply	

Additional sites

(continue on a separate sheet if needed and attach) List below any other premises that are used in connection with your business (e.g. premises used for storage or preparation of food). These activities and sites will also be covered by this Plan. If water is used for food purposes, identify the source of the water supply.

Street address *(2)*	
Activities/water supply source	
Street address *(3)*	
Activities/water supply source	
Street address *(4)*	
Activities/water supply source	

Operator: The operator is the owner or other person in control of the business. If the Plan applies to more than one food business, the operator is the person responsible for the Plan*	
Name	
Physical address *(Business or residential)*	
Telephone	
Email	

Operator of each site *(if plan applies to more than one food business)* Add additional rows as necessary.	
Name	
Physical address *(Business or Residential)*	
Telephone	
Email	

Day-to-day manager

(write 'as above' if the day-to-day manager is the operator) The day-to-day manager is the person who has the overall responsibility to make sure that the Plan is being followed and the appropriate checks and records are completed. The records and your plan must be kept for at least 4 years. All records must be written in English and be easy to read. All records must include a date of when the record was made and the name of the person who performed the task.

Name	
Physical address *(Business or residential)*	
Telephone	
Email	

Registration authority

Authority name	
Address	
Telephone	
Freephone	
Email	

Verifier

Verification agency	
Contact person	
Address	
Telephone	
Email	

Business Layout

You must make sure that the design and physical location of your business allows you to make safe and suitable food.

You need to draw a map and floor plan that includes: (as applicable)

1. your milking shed and other farm buildings,
2. processing room,
3. milk storage area,
4. yards and races,
5. effluent drains and sumps,
6. tanker roadways,
7. aging room,
8. what happens in the different areas on your sites, (e.g. including your milk storage, milk cooling or heat treatment),
9. what happens in your buildings, including non-food activities,
10. what happens in the different areas of the building,
11. some non-food activities being conducted in the same or neighbouring building/property that might affect food safety may need to be included in your map of your business. (e.g. chemical stores).

Layout - Inside of your premises

This could be a hand drawn plan or photograph

Layout - Outside of your premises

This could be a hand drawn plan or photograph

Managing risks near your business

Note here any activities being conducted in your building, or at neighbouring buildings/properties that might affect food safety or suitability in your business, and anything you do to manage risk.

Risk to food safety	How we manage the risk
Example: Objectionable smells, smoke and dust from neighbouring properties could contaminate milk and make it unsafe or unsuitable.	*Example: Any open doors and windows are closed.*

Risk to food safety	How we manage the risk

Taking responsibility

K

Know

What do you need to know?

- You don't need to be a food safety expert but you do need to know enough to make good food safety and suitability decisions for your business. This plan is intended to help you to do that.
- It is your responsibility to make sure the food your business produces, handles and/or sells is safe and suitable.
- Overall, you as the owner are responsible, even if you employ people to help manage food safety and suitability.

Not all the sections in this guide may be applicable to your business – you don't have to follow rules that don't apply to you (for example if you don't package food you don't have to follow the rules about packaging). If you are unsure about whether a section applies to your business seek advice from a consultant, your verifier or your registration authority (local council or MPI).

Food safety vs. food suitability

- **Food safety** is about preventing food from causing illness or harm. Food can be unsafe if it contains certain 'hazards'. Hazards fall into 3 categories:
  1. **Biological (bugs):** Certain bugs can make people sick if in or on food.
  2. **Chemical:** Many chemicals can make people sick if in or on food.
  3. **Physical (foreign):** Glass, metal or other sharp objects can sometimes get into food and cause harm.

K

Know

- Food suitability is about making sure food meets customer expectations and doesn't contain anything unexpected or offensive.
- Taking responsibility for food safety means understanding the possible hazards that could make your food unsafe and taking steps to:
  - keep bugs and harmful chemicals out,
  - reduce bugs to safe levels,
  - eliminate or remove bugs.
- Taking responsibility for food suitability means:
  - only using foods or ingredients that are fit for purpose,
  - labelling food correctly,
  - making sure any claims about your food are true.

Keeping customers safe

- Following the rules will help your business as:
  - about 86% of people that get sick from food don't report it – but they still look for someone to blame,
  - about 75% of people don't think that they got sick from food they made themselves, and blame someone that sold food to them,
  - most people believe it was one of the foods they last ate that made them sick – when it actually could have been something they ate days or weeks ago,

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Know

- about 40% of people that get sick will not buy the food they blame for making them sick again (and might tell their friends not to buy it),
- if someone reports illness, a food safety or animal products officer investigates their complaint – this means you might be visited even when you didn't have anything to do with making someone sick.

Keeping records

- Keeping good records will help you prove you didn't make people sick.
- There are some records you need to keep, others you might like to keep for good practice. Where you aren't required to keep records it is your choice whether you wish to keep records or other evidence to keep track of how well you are managing food safety and suitability.
- Without records it will be harder to prove your food is safe and suitable which could lead to:
  - recalling food,
  - stopping sale of food,
  - having to make certain improvements to your processes or practices,
  - fines or prosecution.

All of the above can cost your business in time, money or reputation.

- There is more helpful guidance and tools available in the **'Record Blanks'** on the MPI website.

K

Know

Advice and guidance

- You can get advice and guidance from others, for example consultants or verifiers.
    - **Consultants** can design systems, processes and procedures for you – but can't take away your responsibilities. It is part of their job to help you understand how to make good decisions about food safety and suitability – especially when things don't go to plan.
    - **Verifiers** can provide advice and coaching (options and examples) about how you can make sure your business is making safe and suitable food but they cannot make your decisions for you.

D

Do

What do you need to do?

- Always follow the food safety and suitability rules.
- Make sure you have enough trained and competent staff (and supervisors if necessary) to achieve the safety and suitability of food.
- Get verified. You must give your verifier the access they need to perform their duties.
- Keep a copy of all documents or records required for at least 4 years.
    - All records must to be accurate, easy to read, and identify what was done, when it was done, and who did it.

D

Do

- Make sure records are easily accessible and can be provided within 2 days when requested.
- Give written notice to the registration authority of any significant change in circumstances before making the change.

S

Show

What do you need to show?

- Your verifier might ask:
  - whether you have given certain food safety responsibilities to other people and, if so, how you know they are doing a good job of keeping food safe and suitable,
  - whether there have been any changes to what you do, make or sell since the last time they were there.

Places and equipment

K

Know

What do you need to know?

- When choosing places and equipment for your business there are some things you should consider, such as:
  - what the place has been previously used for,
  - that rooms and equipment can be easily cleaned and maintained,
  - that there is adequate lighting, ventilation and services (e.g. water and electricity),
  - that equipment is designed for food use and for the process you are intending to use it for.
- Heat treatment equipment needs to be evaluated if it:
  - is new,
  - has been relocated,
  - has been changed.
- Wood contains small pores where bugs can hide. If you are using wooden boards to age cheese you need to have procedures in place to ensure boards are not a source of contamination.
- The only place you can use wood is in the aging room.

Why is choosing good places and equipment important?

- Places and equipment are the foundation of a food business, and the choices you make determine how hard you and your staff will have to work to know food is always safe and suitable.

K

Know

- It's often things which are easily overlooked that can result in food being contaminated and people getting sick. For example:
  - a light breaking and spreading glass into food,
  - feed absorbing heavy metals or chemicals in soil from a previous land use (e.g. shooting range, battery factory and timber processing etc.) into their root systems and leaves,
  - dust, dirt or chemicals carrying bugs getting into food from neighbouring properties,
  - buildings constructed from materials that could be a source of bugs, chemicals or foreign matter getting into your food.
- It's best to source equipment especially designed for food use and for the process you are intending to use it for.
- It's best to choose places and equipment that prevent as many food safety risks as possible.

D

Do

What do you need to do?

- Manage any food safety/suitability risks associated with places and equipment.
- Check previous use of land and buildings, and don't use areas that are likely to make food unsafe.
- If your neighbours do things that could cause food to be unsafe or unsuitable, you must work out how to minimise the chance that this could happen.

D

Do

- Ensure any buildings used for milking, making and storing food are big enough to accommodate the number of staff you plan to have working there and allow for design of a good workflow.
- Ensure you have adequate essential services (e.g. water and electricity).
- Design your workflow so you can safely move around your area (e.g. so raw milk doesn't come in contact with pasteurised milk).
- Ensure buildings, fittings, fixtures or equipment are not made of materials that could be a source of bugs, chemicals or foreign matter getting into your food, or work out how to minimise or eliminate the chance that food could become contaminated from these sources.
- Ensure all areas where food will be handled or stored can be easily cleaned.
- Limit the amount of dust, dirt, fumes or pests that can get into buildings used for handling, processing or storing food.
- You must provide places for storage of cleaning chemicals and maintenance compounds away from food.
- You must have toilets and places to wash hands close to food handling areas.
- Provide for rubbish areas away from food processing/ preparation areas.
- Always use equipment for measuring control points (e.g. thermometers) that are accurate and working properly.

D

Do

- You must have a procedure to ensure wooden boards used for aging are clean and not a source of contamination.
- You must have your heat treatment equipment evaluated if it:
  - is new,
  - has been relocated,
  - has been changed.

S

Show

What do you need to show?

- Your verifier might ask:
  - to see how you ensure wooden boards used for aging are clean and not a source of contamination (if applicable),
  - a copy of your evaluation report, for your heat treatment equipment (if applicable),
  - how you know the location hasn't previously been used for something that will make food unsafe,
  - what you do to manage risks from activities of your neighbours,
  - why you chose the equipment you are using,
  - how you know the building, fixtures, fittings and equipment aren't a risk to the safety or suitability of your food.
- Your verifier will observe workflow and whether staff can easily work and maintain good personal hygiene.

Checking the plan is working well

K

Know

What do you need to know?

- It is your responsibility to regularly check that food safety and suitability is being well managed in your business.
- What to check and how often, depends on the effect of something going wrong in your business. You should check the most important things (e.g. pasteuriser performance) most often.
- An audit by a company you supply also counts as an internal check, but you must still conduct regular checks yourself.
- You should check:
  - that people are doing what they need to,
  - the procedures you have put in place are being followed and are effective,
  - your facilities and equipment remain suitable for the food activities at your business.
- Farm dairy assessment is a type of internal check. Farm dairy assessments are required if you provide milk for raw milk cheese.
- Your verifier might be able to complete your farm dairy assessment if they have the right skills. Ask your verifier if they can do this for you.
- You or one of your staff must be your own internal verifier (self-auditor).

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Know

Why is self-auditing important?

- You are responsible for your business and the food you produce. If you wait for someone else to tell you that something has gone wrong, it may become costly and your food may make people sick.
- Check the plan is working well by (for example):
  - checking whether staff are carrying out key food safety behaviours (e.g. washing hands etc.),
  - checking records are being completed and kept,
  - looking through records to check that things are working as expected,
  - reviewing ***'When something goes wrong'*** information and checking that steps have been taken to prevent problems from happening again,
  - running food safety quizzes with staff,
  - using the ***'Show'*** sections in this template to ask the same questions or check the same things that your verifier would ask or look at.
  - testing the environment or foods for certain bugs or chemicals to show procedures (e.g. cleaning) are effective.

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Know

Some notes about testing:

- There are specific requirements for testing in some situations (e.g. self-supply water). There are also rules about certain limits for bugs or chemicals in the Australia New Zealand Food Standards Code http://www.foodstandards.govt.nz/code/Pages/default.aspx. A limit doesn't mean you always have to test the food for that bug or chemical. If you are thinking about using sampling and testing to show your plan is working well, this shouldn't be the only check that you do. It is not possible to test your way to food safety.
- Testing can be a useful tool, but it has limitations. If, for example, testing results find harmful bugs, that might mean some part of the process is not working well.
- A negative result may not prove that your plan is working perfectly (or that the food is safe). Bugs, in particular, are not usually evenly distributed in food. It's possible to test some food and get a negative result, when another part of the food in the same batch has high levels of harmful bugs.

Imagine you have a batch of 200 apples packed into 10 sacks and you think it's possible that there might be 1 or 2 bad apples in the batch. You open 1 sack and pull out 1 apple. If it's a good apple does it prove all the other apples are good?

How many sacks do you have to open, and how many apples do you have to pull out (sample) to be sure that you either find the bad apples or prove that the batch contains no bad apples? What if, once an apple has been taken out of the sack, you aren't allowed to sell it?

Would you 'test' to find the bad apples in the sacks – or put processes in place to make sure you found and removed any bad apples before you packed them in the sacks in the first place?

K

Know

- If you want to include testing as one of your checks, it is often more effective to test the environment rather than final foods.
- If you use sampling and testing as part of your procedure for checking, it is highly recommended that the testing plan is developed by an expert. If you don't have an expert in your business, a consultant, your verifier or MPI can provide information about putting together a sampling and testing plan.

D

Do

What do you need to do?

- You must set up procedures for regularly checking that you and your staff are making safe and suitable food and meeting your requirements and responsibilities under the *Animal Products Act 1999* and the *Food Act 2014*.

Milking animals producing milk for raw milk cheese during the period 1 August to 30 November, or, 1 February to 31 May in any year must have a farm dairy assessment within that period. If you milk in both of these periods you will need an inspection in both.

- Follow the procedure on ***'When something goes wrong'*** if your self-checks identify mistakes or actions that could have made food unsafe or unsuitable.

S

Show

What do you need to show?

- Show your verifier:
  - how you check that your procedures are working well,
  - results of the checks you have made,
  - results of farm dairy assessments (if required),
  - results of the tests you have carried out.

Training and competency

K

Know

What do you need to know?

- You and your staff have different training needs. You must know what training staff and visitors need, to produce safe and suitable milk and cheese.
- All staff and visitors must understand the training they are given.
- All staff must be confident that they know exactly what to do and follow the plan to make sure safe and suitable food is produced.
- If you're a one person business you can use online tools, food safety courses, or seek help from a consultant.

D

Do

What do you need to do?

- Assign someone who is responsible for making sure the plan is followed: (tick as appropriate)

  ☐ day-to-day manager, or

  ☐ delegated person.

  Name: _____

- The ☐ day-to-day manager or ☐ delegated person (tick as appropriate) must make sure that all staff and visitors are trained so they know how to meet the rules about:
  - cleaning hands,
  - wearing clean clothing,

D

Do

- reporting sickness,
- dealing with foods that could make people sick,
- cleaning and sanitising,
- keeping foods separate in the food preparation area (including, managing allergens, raw milk/pasteurised milk, and managing chemicals and poisons),
- other procedures which are specific to your food business,
- what to do when something goes wrong.

- Train staff:
  - before they start working in your food business,
  - when a procedure is introduced or changed.
- Keep a **record** of training that you, your staff or visitors have completed, and when they completed it.
- All visitors (e.g. delivery people, contractors etc.) must keep food safe while they are in your food business.

S

Show

What do you need to show?

- Show your verifier:
  - a **record** of how and when staff were trained to follow the plan. Include:
    - who was trained,
    - when,
    - what parts of the plan you covered,
    - signatures from the trainer and trainee.

Suitable water

K

Know

What do you need to know?

- Suitable water must be:
  - safe to drink if it is used for food preparation, washing food contact surfaces/ equipment, and for staff to wash their hands,
  - clean and fit for purpose when used for any other activities in growing or making food.

Why is it important to ensure water is suitable?

- Water can carry harmful bugs and chemicals that can make people sick. These might be because the water is contaminated at the source, or because water pipes and storage containers become contaminated.
- It's important to consider how you use water in your business, and make sure that the water is not going to be a source of food contamination. If you use a council or registered water supply most of this is done for you.
- A water reticulation map or plan can help you manage risks of contamination, dead ends and backflow.

If you use self-supply water

- You will need to prove it is suitable for use by having it tested at an accredited and recognised lab (there is information on the MPI website about these).
- You will need to know where near-by activities and naturally occurring chemicals could make your water supply unsafe.

K

Know

- Keep water tanks:
  - clean and in good condition to stop the build-up of sediment, and
  - covered to stop animals, birds and dirt from contaminating water.
- You may need to install operate and maintain (e.g. replacing filters) a water treatment system, following the manufactures instructions, to ensure water is suitable for use with food.
- You might need to treat roof, surface or ground water using filtration, chlorination or UV disinfection to make it suitable for use.
- Self-supply water sources may be subject to other legislation as well.

For ground water supply only

- Bores should be designed and maintained so they are protected from surface contamination.

For roof water supply only

- Additional risks to contamination of your water can be reduced by:
  - collecting water only from clean roofs and gutters made from safe materials (e.g. no lead based paints, bitumen, exposed timber or copper gutters),
  - putting screening gutters up, removing overhanging branches and vegetation, and mounting aerials and satellite dishes away from water collection areas,
  - installing a first flush device (a device which diverts the first flush of water when it rains).

D

Do

What do you need to do?

- Select where you get your water from: (tick as appropriate)
  - ☐ registered supplier: (name of supplier)

    _____
  - ☐ roof water supply
  - ☐ surface or insecure ground water supply
  - ☐ secure grand water supply (a supply that meets the definition of secure is in the 'Drinking Water Standards for New Zealand)*
  - ☐ a supply which is currently subject to a Public Health Risk Management Programme*

*You don't need to do anything more if you choose to use one of theses programmes.

- For water for milking, making cheese, hand washing and cleaning, either:
  - use a potable (council/registered) water supply, or,
  - check that your roof, surface or ground water supply is tested at least once every year in an accredited lab and meets the following limits:

Measurement	Criteria
Escherichia coli	Absent in any 100 ml sample*
Turbidity	Must not exceed 5 Nephelometric Turbidity Units
Chlorine (when chlorinated)	Not less than 0.2mg/l (ppm) free available chlorine with a minimum of 20 minute contact time
pH (when chlorinated)	6.5 – 8.0

**Escherichia coli* testing must be performed by an accredited lab.

- Test any new supply of water before using it in food areas.

D

Do

- Test roof, surface or ground water supplies within 1 week of knowing about a change to the environment or of activities that may affect the safety and suitability of the water.
- For surface and (insecure) ground water intakes must be:
  - at least 10m away from livestock,
  - at least 50m away from potential sources of contamination including silage stacks, offal pits, human and animal waste, potential chemical stores and tanks

All water supplies

- Only use water tanks, containers, pipes, outlet taps and treatment systems for any water supplies on site that are suitable for drinking water (or are “food-grade”). Regularly check and maintain these.
- Clearly mark outlet taps, tanks, and pipes that do not contain clean water. These must not be used for food processing, hand washing and cleaning.
- You must have a system for managing cross contamination, dead ends and backflow.
- If your water supply becomes unsafe (or you’re advised by your supplier it is unsafe):
  - don’t use it, or
  - for chemical or physical contamination seek advice from your verifier or a water expert, or
  - for contamination with bugs:
    - boil it for at least 1 minute before use, or
    - disinfect it with chlorine before use, or
    - use another supply of water which you are sure is safe (e.g. bottled water).

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Do

- Always throw out any food which has been contaminated by unclean/unsuitable water.
- You must record the water source for each of the locations you operate in.

S

Show

What do you need to show?

- Your verifier will:
  - ask how you know your water is fit for purpose,
  - ask you about how you check and maintain water equipment and facilities,
  - ask to see your **records** of water sources for each of your locations,
  - how you manage contamination or cross contamination of water supply.

For self-supply water

- Your verifier will:
  - ask to see a **record** of test results for any roof, surface or ground water supplies that are used for cleaning milking equipment, or for hand washing,
  - ask what near-by activities could affect the safety of your water,
  - ask you to show them how you know any water treatment system is working properly.

Personal hygiene

K

Know

What do you need to know?

- Ways to protect food from contamination from people include:
  - washing hands (and arms if they will touch milk or cheese),
  - not working with animals, raw milk or cheese when sick with anything that causes vomiting, diarrhoea or jaundice,
  - wearing clean clothes (e.g. aprons, overalls, boots, hats and hairnets).
- Washing your hands helps to keep bugs out of the food preparation area. Regular hand washing helps prevent contamination of your food.
- One of the most common ways bugs get into food is from people – mostly from their hands.
- There's a list of approved chemicals, including cleaners and sanitisers on the MPI website. Search for "Approved & Recognised Maintenance Compounds".
- Regularly washing hands in soapy water for 20 seconds, rinsing and drying them properly (using paper towels, single use cloths, or an air dryer) is one of the best and easiest ways to help prevent bugs getting into your food.

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Know

- Uncovered cuts and sores can spread bugs and make food unsafe and unsuitable, especially if they are weeping or infected.

If people are wearing gloves (whether to cover sores or for any other reason), they should wash their gloved hands or replace the gloves in all the same situations when ungloved hands should be washed.

- Personal hygiene is important even if your workplace is located on the road or in the middle of a field.
- You and your staff should seek medical advice if you/they:
  - have jaundice, or
  - have vomited or had diarrhoea 2 or more times in a day, or
  - have been sick with a tummy bug for more than 24 hours.
- Harmful bugs can be transferred to food through a sick person's faeces, vomit and other body fluids (e.g. blood and snot).
- Staff who have had a tummy bug should not work with food until 48 hours after they feel better.
- Dirty clothing can contaminate food, surfaces and equipment.
- Wearing clean clothes (overalls or aprons etc.) helps to keep bugs out of food.
- If staff contaminate food, you may have to recall it. See ***'Recalling your cheese'***.

D

Do

What do you need to do?

- Wash your hands (and arms if they will touch milk or cheese) in soapy water for 20 seconds then dry thoroughly using paper towels, single use cloths, or an air dryer.
- Always have soap and paper towels, single-use cloths or an air dryer by the handwashing sink.
- You must keep your hand-washing area clean.
- You must wash your hands (and arms if they will touch milk or cheese):
  - when entering the food preparation areas,
  - before handling food,
  - after coughing or sneezing,
  - after using the toilet,
  - after using your phone,
  - after taking out rubbish,
  - after touching something you think is dirty.
- Only use detergents, sanitisers and hand towels which are approved by MPI in farm dairies and cheese production areas.
- You must manage any cuts or sores by: (tick as appropriate)

  ☐ covering any cuts and sores, or

  ☐ not handling food if cuts and sores are weeping or infected and can't be totally covered.

D

Do

Manage sick staff

- Implement a sickness policy to ensure you or your staff don't work with food when you/they are sick with an illness that can be passed on through food.
- Any staff or visitors (including contractors) who have vomited, had diarrhoea or jaundice in the 48 hours before entering the food premises, or who develop these symptoms when on the premises, must tell either the: (tick as appropriate)

  ☐ day-to-day manager, or

  ☐ delegated person immediately.

  Name: _____
- Staff must stay away from the food processing area until they are well. If they have an illness they can pass on through food.
- Sick staff may be able to complete tasks that do not come into direct contact with food or food preparation areas.

D

Do

Wear clean clothing

- Clean clothing (e.g. aprons, overalls, boots, hats and hairnets etc.) must be worn before handling food or entering food preparation areas (this applies to contractors and visitors too).
- You must make sure of one of the following, either: (tick as appropriate).

  ☐ staff wear their own clean clothing, or
  ☐ I provide clean clothing for staff.

- Remove outer protective clothing (e.g. aprons etc.) before leaving the food preparation area (e.g. to go to the toilet, outside etc.)

S

Show

What do you need to show?

- Your verifier will:
  - check everything they need is there by washing their hands when they enter your business.
- Your verifier will ask:
  - who is responsible for making sure your hand washing area is fully stocked and cleaned,
  - how you know people are washing their hands when they should,

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Show

- staff about when they wash their hands, and may ask them to show how they wash their hands,
- what happens if someone has a tummy bug or gets sick,
- check that everyone who handles food puts on clean clothing/aprons at the start of (or as required, during) each shift,
- ask how you make sure clean clothing is worn,
- ask you questions about your rules around clean clothing or any issues you have had with your rules.

- Show your verifier:
  - a written **record** of when staff were sick.

Cleaning and sanitising

K

Know

What do you need to know?

- Cleaning and sanitising are 2 different things:
  - cleaning removes dirt, grease and most bugs from surfaces,
  - sanitising kills harmful bugs left on clean surfaces.
- Food contact surfaces and equipment should be cleaned every day that food touches it (it's best to clean as you go). If food contact areas are not used for a few days they should be cleaned before they are used again (to remove dust and dirt that has settled there in between use).
- It's important to clean staff-rooms, bathrooms and toilets. This minimises the chance of staff bringing bugs from these areas into places where food is handled or processed.
- It is a good idea to keep storage rooms clean and tidy.
- Your cleaning equipment (brooms, mops, cleaning cloths), can become a source of contamination if they aren't cleaned or replaced regularly too.
- Using disposable cleaning cloths or washing cleaning cloths after each day's use is recommended.

K

Know

- If you are using automated “clean-in-place” (CIP) systems, you should have an expert install the system and confirm it is working properly.
- There’s a list of approved chemicals, including cleaners and sanitisers on the MPI website. Search for ‘Approved & Recognised Maintenance Compounds’.

D

Do

What do you need to do?

- Sweep, vacuum or mop floors, wipe benches and clean food contact surfaces, equipment, staff facilities and storage areas regularly and when needed.
- Always use clean hot soapy water or food-safe cleaning chemicals according to the label instructions.
- Clean brooms, mops and other cleaning equipment regularly.
- Store cleaning equipment and chemicals away from food.
- Use sanitising chemicals designed for use in food areas and follow the instructions on the label.
- Always sanitise food contact surfaces and equipment after cleaning, or before use, as required.
- Only use detergents and sanitisers which are approved by MPI in farm dairies and cheese production areas.

D

Do

- Sort and/or wash dirty laundry (if you choose to supply your staff with clean clothing) away from food.
- Store rubbish away from food and remove it from the premises regularly.
- Make sure people can't mistake rubbish for food/ ingredients.
- Clean bins and rubbish areas regularly.

S

Show

What do you need to show?

- Your verifier will:
  - look around your business and check that everything looks clean and tidy. They will also ask you and/or your staff when and how you clean and sanitise.
- Show your verifier:
  - your 'end-of-day' routines including stock control,
  - a **record** of your cleaning tasks, who does it, and when,
  - how you remove waste,
  - how you clean your bins and rubbish area, and who is responsible,
  - how you clean and sanitise wooden boards that touch cheese during cheesemaking and/or aging,
  - that your premises and equipment are clean and that laundry is being done when necessary,
  - how you clean and sanitise your food preparation areas and equipment,
  - how you use approved chemicals and compounds safely.

Maintaining equipment and facilities

K

Know

What do you need to know?

- If your premises and equipment aren't designed for food use, aren't in good condition and/or don't work properly, you may make unsafe and/or unsuitable food.
- It is important to assess where you make food and make sure it's not made of materials that could contaminate food, can be easily cleaned, has the necessary services (e.g. power and water) and is big enough for all activities (and staff) you have. You need to regularly check that all of this remains true (is maintained) for your business.
- Broken equipment and an unkempt building (e.g. damaged floors or walls) can allow pests and bugs in your food. This can lead to unsafe and unsuitable food.
- You don’t need to be an expert at fixing or maintaining your equipment, but you do need to able to identify if there's a problem and how to fix it, or who to bring in to fix it.
- The water you use for making cheese, hand washing and cleaning must always be clean. You need to know if your water pipes, tanks and water treatment systems fail, so they can be fixed.

D

Do

What do you need to do?

- Check your premises and equipment for signs of deterioration (e.g. holes in floors and walls) and fix as necessary.
- Check your equipment for signs of deterioration and fix as necessary.
- Service your equipment regularly.
- Calibrate your equipment (e.g. pH meter, thermometer etc.) as required.
- Maintenance compounds and chemicals must:
  - be fully labelled, stored, sealed and used following the manufacturer's instructions,
  - be stored and transported in containers that are clearly different from food containers, and are appropriate for the compound they contain.

For all water supplies

- Water pipes must work properly to stop animals, birds, dirt and waste from contaminating your water.
- Always flush water pipes after:
  - repairs and maintenance,
  - after 7 days without use to remove stagnant water.
- Keep water tanks:
  - Clean and in good condition to stop the build-up of sediment, and
  - Covered to stop animals, birds and dirt form contaminating water.

D

Do

For surface or ground water supply only

- You must install, operate and maintain the water treatment system following the manufacturer's instructions.
- You must follow the manufacturer's instructions for replacing and cleaning filters.
- Bores must be designed and maintained so they are protected from surface contamination.

For roof water supply only

- Water must only be collected from clean roofs and gutters made from safe materials (e.g. no lead based paints, bitumen, exposed timber or copper gutters).
- You must reduce the risk of contamination as much as possible. This includes:
  - putting screening gutters up,
  - removing overhanging branches and vegetation,
  - mounting aerials and satellite dishes away from water collection areas,
  - installing a first flush device (a device which diverts the first flush of water when it rains).
- You must install, operate and maintain the water treatment system (e.g. replacing filters) following the manufacturer's instructions.

S

Show

What do you need to show?

- Show your verifier:
  - what you do to check your premises and equipment are designed for food use and are in good working order,
  - how often you do maintenance checks,
  - what you check for during maintenance checks,
  - a **record** of your regular maintenance tasks or repairs, who does them and when,
  - how often you've inspected and maintained your water system and tanks. Also **record** who did it and when.
- Your verifier will check that you are calibrating your equipment (e.g. pH meter, thermometer etc.) as required.

For self-supplied water only (surface, ground or roof supply)

- Show how often you've inspected and maintained (e.g. changed filters) your water treatment system.

Checking for pests

K

Know

What do you need to know?

- Pests such as mice, birds and insects can spread disease. They do this by picking up bugs from dirty items such as waste and transferring them to food and food equipment.

D

Do

What do you need to do?

- Check for and remove any signs of pests daily (e.g. droppings, empty full traps, dead insects).
- Clean and sanitise any affected equipment and areas that come into contact with food.
- Follow the procedure on what to do ***'When something goes wrong'*** if you find signs that a pest may be present in your food business. If pests are present, you must record:
    - the name of the pesticide used,
    - the amount of pesticide used,
    - where you used the pesticide
    - where your bait stations are located.

S

Show

What do you need to show?

- Show your verifier how you check for pests and a **record** of what was done if evidence of pests were found.

Feeding your animals

K

Know

What do you need to know?

- There are many things which can contaminate or taint your milk. These include:
  - chemicals,
  - fertilisers,
  - waste material,
  - what you feed your animals,
  - how you graze your animals.

This is especially important when producing milk for raw milk cheese.

- You need to know what your land has been used for in the past and what happens on your neighbours properties so you can manage any possible contamination of your soil.
- DDT, DDE and DDD are chemicals that were used to control pests. They are no longer used because they are unsafe. You need to know if there are any DDT, DDE or DDD residues to be managed.
- There are maximum residue limits for DDT, DDE and DDD in milk. Follow the "***When something goes wrong***" card if you exceed those limits.

D

Do

What do you need to do?

- You must not apply anything to your land that will contaminate or taint your milk.
- You must know the feed and grazing history of your herd, even if they have grazed off-site.
- You must always follow the manufacturer or suppliers' recommended withholding periods for grazing or harvesting of feed following the application of fertilisers or other agricultural chemicals.
- You must ensure anything you use for, or feed your animals, is suitable for use.
- You must ensure milking animals have an adequate supply of suitable water.

S

Show

What do you need to show?

- Show your verifier:
  - how you manage waste application and animal access to grazing land,
  - how you know and follow withholding periods for grazing and or feed harvesting after applying fertiliser or chemicals,
  - how you ensure limits for DDT, DDE and DDD are being met,
  - how you know the feed and grazing history of your herd.

Milking animal health

K

Know

What do you need to know?

- You need to know that you have healthy animals, to be sure you are producing safe milk.
- You need to track where new milking animals came from, and when existing stock has been removed from your herd.
- You need to be able to identify and mark sick, diseased or injured animals, and keep them in a separate herd if they are contagious or their milk shouldn't be used in food.
- Milk from animals with injured udders or glands must not be sold or used in food.

TB is a disease that can be transmitted to humans through raw milk and raw milk products. You need to be sure that all milking animals producing milk for raw milk products are clear from TB.

- There are rules about disposing milk from sick, diseased or injured animals that you will need to follow. Either your vet or verifier will tell you if/when these rules apply.

D

Do

What do you need to do?

- Sick, diseased or injured animals must be:
  - identified and clearly marked, and
  - segregated from the main herd if they are contagious.

D

Do

- You must not use or sell any milk for human consumption that has come from:
  - sick animals,
  - diseased animals,
  - animals with injured udders or glands.
- You must keep a **record** of any sick, diseased or injured animals showing:
  - the animal ID's,
  - the date,
  - any medicines given to the animal,
  - name of the person who gave the medicine, and when,
  - how long the milk has to be withheld,
  - how milk from the animal has been kept separate.
- Dairy goats with caprine arthritis encephalitis must be culled. You must keep a record of any dairy goats which have been removed from your herd.

Milking animals producing milk for raw milk cheese during the period 1 August to 30 November, or, 1 February to 31 May in any year must have a vet inspection within that period. If you milk in both of these periods you will need an inspection in both.

Milking herds of cows and buffaloes producing milk for raw milk products must be TB clear (achieving a rating of C5 to C10) and tested for TB each season.

D

Do

Cattle, buffaloes or deer that are on a farm with goats producing milk for raw milk products must be TB clear, and the goats must be tested for TB each season.

You must not use or supply milk for raw milk products if any animal on the farm:

- returns a positive reaction to any TB test,
- is suspected by a veterinarian to be affected by TB, or
- is directed for slaughter under the national TB eradication scheme.

If any animal on (or from) the farm is confirmed to have TB by post-mortem inspection or any other means, you must not use or supply milk for raw milk products until the farm is confirmed as TB clear.

- You must identify, clearly mark and separate milking animals within 4 days (or 8 milkings) of giving birth. You must not use the milk from those animals for food, unless they are being milked for the supply of colostrum.
- You must rinse and drain the milking plant, if colostrum animals have been milked before the main herd.
- If you milk segregated animals before the rest of the herd, you must hot wash the milking plant.
- If disposing any dairy material or dairy product, you must follow any instructions from your verifier or vet.
- Any dairy material or dairy product which is unfit for human consumption must only be fed to an appropriate type of animal that won't get sick as a result.
- A vet must check milking animal health each season.

S

Show

What do you need to show?

- Show your verifier:
  - how you uniquely identify each milking animal, and how you know which animals are sick, diseased or have been treated,
  - how you safely dispose of withheld milk.
- Show your verifier a **record** of:
  - any sick or diseased animals,
  - your vet checks for milking animal health,
  - any milk which you have disposed of. You must include:
    - date,
    - place,
    - how you disposed of it (including who it went to),
  - results of any applicable TB testing.

Milking

K

Know

What do you need to know?

- Dirty teats maybe a source of contamination.
- Foremilk should be monitored for signs that something is wrong.
- All raw milk must be cooled quickly and then kept cool to help prevent the growth of any dangerous bugs.

This is particularly important if the milk is to be used for raw milk products. Some additional requirements apply for raw milk products.

- Raw milk needs to be filtered to remove any foreign material. You can do this either during (using in line filters), or at the end of milking.
- You need to regularly check (and/or replace if disposable) and clean filters. You should only use approved chemicals to clean filters.
- If you are producing milk to be used for raw milk cheese, there are some limits for bugs you need to meet. See '***Checking the plan is working well***'. If you are testing your product, use an accredited and recognised lab. See http://www.foodsafety.govt.nz/registers-lists/rlp-laboratories/index.htm

D

Do

What do you need to do?

- Teats of milking animals must be clean.

Teats of milking animals must be clean and dry.

- Raw milk must be withheld if foremilk monitoring shows anything abnormal.
- Raw milk must be used within 2 hours from the completion of milking, or:
  - cooled to 7°C or less within 3 hours from the end of milking if collected daily, or
  - cooled to 6°C or less within 2 hours from the end of milking if collected every second day.
- Once cooled, raw milk in the vat must:
  - be kept at 6°C or less until collection or the next milking, and
  - not go above 10°C during any subsequent milking.

Raw milk to be used for raw milk cheese, must meet the limits in the table below.

Test	Limit
Aerobic Plate Count (APC)	Less than 300 000 cfu/ml

S

Show

What do you need to show?

- Show your verifier:
  - how you cool your milk to the required temperature in the required time,
  - a **record** of any applicable test result.

Designing your cheesemaking process

K

Know

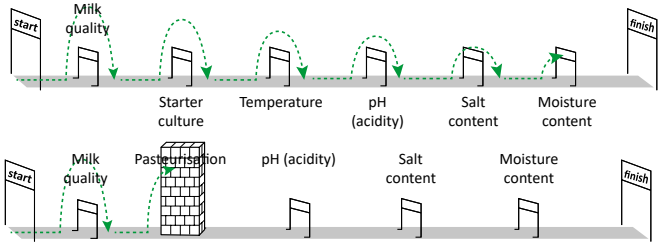
What do you need to know?

- Most cheesemaking processes don't have a single step that will reliably kill/eliminate all bad bugs. To make safe and suitable cheese, you will need to select a combination of steps (hurdles) that together exhaust or kill bad bugs.
- Hurdles are controls like:
  - pH (acidity),
  - using a starter culture,
  - temperature, (both heat treatment and storage temperature),
  - salt content,
  - moisture content.
- For each type of cheese you will make you need to know:
  - your recipe including the ingredients you will use for that type of cheese,
  - the process you will follow for that type of cheese,
  - the limits that apply to that type of cheese,
  - the hurdles (things that help kill bad bugs) you will use to meet those limits.

K

Know

Examples of hurdles:



- The combination of all the hurdles you use 'adds up' to prevent growth of bad bugs and determines how safe your cheese is at the end of your cheese making process.
- You need to be careful not to introduce any bad bugs during your cheesemaking process, as bugs introduced along the way might not have to face all of the hurdles.

Raw milk cheese is a high-risk product because there is no heat treatment step to kill bad bugs. The 3 main ways to control bad bugs in raw milk cheese are:

- using high quality raw milk,
- focusing on cleaning, sanitising and personal hygiene,
- using a fresh starter culture for every batch of cheese so good bugs out compete bad bugs.

- The difference between making cheese and other foods, is that the cheesemaking process relies heavily on having the right pH at every stage.

D

Do

What do you need to do?

- You must determine your process for making each type of cheese.
- You must select and record the combination of ingredients and controls (hurdles) you will use to make safe cheese.

D

Do

- You must follow your process every time, to ensure you make safe cheese.
- You must only use milk that is less than 48 hours old to make raw milk cheese. (see ***'Sourcing, receiving and tracing food'***).

S

Show

What do you need to show?

- Show your verifier:
  - a **record** of your process and the limits you will meet,
  - how you know your hurdles allow you to meet the limits,
  - how you know you apply your hurdles correctly every time.

Proving your method works every time

K

Know

What do you need to know?

- After designing your cheese process, you need to prove your process works. You can either test every batch or prove your method works every time.
- Proving your method means that you don't have to test every batch of cheese you make.
- You will need to prove your method works for every type of cheese you make, as each process will be different.
- You can't sell the cheeses used to test your method.

D

Do

What do you need to do?

- List the types of cheese you will prove your process for:

  _____

  _____

- You must follow the process you've designed for making cheese (see the '***Designing your cheesemaking process***' card).
- Check or test your cheese to prove it is meeting the required limits you have established (e.g. pH, salt content, moisture and water activity).
- You must redesign your process if the final product does not meet your limits.
- For pasteurised or thermised cheese you must check or test 3 different batches of each type of cheese you make so you know it works.

D

Do

- For raw milk cheese you must check or test 10 different batches of each type of cheese you make so you know how it works.
- You must test every batch according to the table below:

Micro limits for incoming milk	Number of organisms
APC at 30°C	300,000 cfu/ml
Micro limits for cheese	**Number of organisms**
Escherichia coli	10^2/g
Salmonella	not detected in 25 g
Listeria monocytogenes	not detected in 25 g
Staphylococcal enterotoxins	not detected in 25 g

- You must keep a **record** of your process and checks.
- If any batch does not meet your limits you must start the checking process again.
- If any of your raw milk cheeses fail at the 24 hour check you must check it again at the end of maturation. If any fail at the end of maturation you must report this to your verifier and work out a new checking plan.
- Once you know your process works you must check it every month you are making cheese.

S

Show

What do you need to show?

- Show your verifier:
  - a **record** of your results showing your process works,
  - what you did if something in your process went wrong.

Sourcing, receiving and tracing food

K

Know

What do you need to know?

- You need to know what type of milk you are sourcing or using as you need to ensure that their plan has covered the appropriate risk.
- If you're buying milk in to make your cheese it needs to come from someone who is operating under the right type of RMP (e.g. for pasteurised cheese any RMP is OK, but for raw milk cheese they must have an RMP for raw milk products).
- You can't use raw milk produced under a Regulated Control Scheme (RCS) for raw drinking milk to make cheese.
- You should use trusted suppliers (e.g. registered food businesses) for your food, ingredients and processing aids to give you a good start to making safe and suitable food.
- You need to check the ingredients you receive are:
    - not damaged,
    - at the right temperature,
    - not past their use-by date.
- You need a system to keep track of the food/ingredients/ inputs you receive.
- You need to be able to trace and recall your product immediately if you need to.

K

Know

- You have 2 options for tracing your food:
  1. record all information (including suppliers' information with batch/lot identification) so that your product can be traced and recalled (if necessary), or
  2. only record the minimum amount of information required and recall all food you have made if there is a problem.
- The minimum information you need to keep when receiving food is:
  - the name and contact details of your supplier,
  - the type and quantity of food,
  - the temperature of the food, (if it needs to be kept at a certain temperature to make it safe and suitable.)
- If you choose option 1, you must have a written plan to be able to trace your food, and recall it if necessary, if there's a food safety problem with either your product or any of the ingredients in your product.
- If you choose option 2, you must recall or dispose of all of the food which may have been affected.
- Option 2 could be expensive as if there's a food safety problem, you would have to recall or dispose of all foods produced in your premises which may have been affected.
- There is specific information you must keep about foods you import.

K

Know

Why is sourcing, receiving and tracing important?

- Using trusted suppliers gives you confidence that the foods/ingredients/inputs are safe to use. This can save you time and money, and prevent people getting sick from your food.
- Some foods must be kept cold (chilled or frozen) to stop bugs growing and they can become unsafe quite quickly if not kept at the right temperature.

It's best to be there to receive deliveries. If chilled or frozen food is delivered out of hours how will you know whether it was at the right temperature? And that it will still be safe by the time you get there?

D

Do

What do you need to do?

Source

- Keep a list of your suppliers and their contact details.
- If you are an importer of food, the requirements you need to meet are outlined here: www.mpi.govt.nz/document-vault/10823
- You must list which type of milk you are sourcing:

  ☐ Pasteurised

  ☐ Raw

D

Do

Receive

- Milk for raw milk cheese that has not been recieved within 2 hours of milking must be received at:
  - 8°C or less if cheesemaking starts within 4 hours, or
  - 7°C or less if cheesemaking starts within 24 hours, or
  - 6°C or less if cheesemaking starts within 48 hours.
- Milk for making raw milk cheese must be no more than 48 hours old.

0 - 2hrs	2 - 4hrs	4 - 48hrs	48+ hrs
Any temperature	*Less than **8°C***	*Less than **7°C** within **3 hours** of end of milking (daily collection)* *Less than **6°C** within **2 hours** from end of milking (48 hours collection)*	*Can't be used for raw milk cheese*

- You must always check:
  - the temperature of chilled ingredients that need to be chilled to keep them safe and, if it is above 5°C, apply the 2 hour/4 hour rule,
  - packaging is not damaged or dirty,
  - food is not past its use-by date.
- When receiving milk or other ingredients, start your tracing system by:
  - keeping your receipts,
  - writing down the type(s) and quantity of food(s) you got from each supplier, or
  - using an electronic (e.g. bar-coding) system to track what you received, when and who from.

D

Do

Trace

- Create a tracing system by keeping a list of your suppliers and their contact details.
- To trace imported food you must keep:
  - the name and contact details of:
    - your supplier,
    - the manufacturer of the food,
    - any information that shows the food:
      - has been assessed or confirmed as being safe and suitable,
      - is transported and stored safely to stop deterioration and contamination,
  - a description of the food including commodity, brand and lot or batch identification,
  - any information which will allow food to be traced:
    - from the supplier to the registered importer,
    - while it is under the registered importer's possession,
    - to the next person the food is passed onto (other than the final consumer).
- For all food choose either: (tick as appropriate)

  ☐ option 1 – record all information to enable targeted recall; or

  ☐ option 2 – record minimum information.

If you choose option 1 :

- you must have a plan for recording where your food has come from and where it has gone, your staff must know how to follow the plan (i.e. recording batch/lot identification, and where to look for this information on pre-packaged products).
- Test your tracing systems regularly to prove you can quickly identify and prevent sale or distribution of, or recall, unsafe/unsuitable food if you need to.

S

Show

What do you need to show?

- Your verifier will:
  - ask you who your suppliers are and how you check that they are trusted suppliers.
- Your verifier might:
  - observe receipt of a delivery of food to your business,
  - check your records relating to receiving food,
  - ask how you have tested your tracing system. They might also conduct a tracing test using an ingredient you have received or a batch of food you have produced.
- Show your verifier a **record** of:
  - of all information outlined in the **Do** if you are importing food,
  - if you choose option 1, a **record** of all batch/lot identification information,
  - if you choose option 2, a **record** of the minimum information is required.

Separating food

K

Know

What do you need to know?

- You need to keep raw milk separate from heat-treated milk.
- Milk, including sheep, goat, buffalo, etc, is one of the common food allergens you must know about.
- You also need to know other common allergens including sulphites, cereals containing gluten (e.g. wheat), shellfish, eggs, fish, peanuts, soybeans, sesame seeds, tree nuts and lupin, which could cause an allergic reaction if added to your cheese.
- You need to know which allergens are in your cheese – you must include this information on the packaging, or be able to tell your customers if they ask.
- Poisons and dangerous chemicals can make people sick if they get into food.

D

Do

What do you need to do?

- You must choose one of the following methods when preparing: (tick as appropriate)
    - raw milk/pasteurised milk products,
    - foods that contain the allergens listed in the **Know**, and foods that don't contain those allergens,

D

Do

- ☐ use different spaces and equipment (chopping boards, knives and utensils), or
- ☐ process at different times (cleaning and sanitising, if required, in between), and/or
- ☐ thoroughly clean and sanitise surfaces, boards, knives and other utensils between use.

- Wash your hands and, if required, change protective clothing between handling:
  - raw milk and pasteurised milk/cheese, or
  - foods that contain the allergens listed in the **Know**, and foods that don't contain those allergens, or
  - dangerous chemicals or poisons and food.
- Keep all products not intended for human consumption (e.g. animal feed) away from food and food preparation areas.
- Label poisons and dangerous chemicals clearly, store them away from food and make sure food is protected when using them.
- Label and store all food that could cause an allergic reaction separately.
- If your cheese is not labelled, you must be able to tell your customers which cheeses you have made and/or are selling contain allergens.
- When transporting your food, separate:
  - raw/heat treated milk, or
  - foods that contain the allergens listed in the **Know**, and foods that don't contain those allergens.

S

Show

What do you need to show?

- Your verifier may ask your staff to explain how they know which foods you make contain allergens.
- Show your verifier that foods containing any of the allergens listed in the **Know**, and poisons and dangerous chemicals are clearly labelled and kept away from food.
- Show or explain to your verifier how you separate:
  - raw/heat treated milk, or
  - foods that contain the allergens listed in the **Know**, and foods that don't contain those allergens, or
  - dangerous chemicals or poisons and food.

Pasteurising and thermising

K

Know

What do you need to know?

- Pasteurisation and thermisation are 2 different types of heat treatment, where raw milk is heated to specific temperatures for specific times to reduce the number of harmful bugs.
- **Pasteurisation** involves heating milk to higher temperatures to reduce the level of bugs to safe levels, it doesn't eliminate all bugs though and bugs can grow in the cheese making process. That's why when pasteurisation is used, you still need to use other food safety controls to stop new unwanted bugs getting into the milk or cheese.
- Particle size, which is determined by filtering, changes the pasteurisation time and temperature combinations.
- **Thermisation** can only be used to make some types of cheese. It involves heating raw milk at lower temperatures to reduce the level of bugs. As thermisation does not kill as many bugs as pasteurisation, you need to use other processing steps to kill more of the surviving bugs (e.g. storing the cheese for particular times at particular temperatures). You still need to use other food safety controls to stop new bugs getting into the milk or cheese.
- If you wish to use a heat treatment procedure that is different to what is in this plan, you will need to seek approval from your registration authority.
- Let your verifier know if you are using a plate heat exchanger to pasteurise or thermise milk as they may need a technical expert to check it's working properly.

K

Know

- Fat content and particle size affect pasteurisation and thermisation temperature/time combinations. You will need to choose the appropriate temperature/time combinations for your milk. The particle size is determined by the filler you use.

D

Do

What do you need to do?

Pasteurising

- To pasteurise milk with less than 10% fat and 200 microns:
  - rapidly heat the milk to one of the temperature/time combinations in the table below, or
  - meet a different temperature/time combination which has been approved by your registration authority.

Minimum temperature	Minimum holding time
72°C	15 seconds
63°C	30 minutes

- Once pasteurised:
  - milk must be processed i.e. cheesemaking starts within 4 hours, or rapidly cooled to (and stored at) 6°C or less,
  - cream must be processed i.e. cheesemaking starts within 4 hours or rapidly cooled to (and stored at) 7°C or less, or
  - other time/temperature combination approved by your registration authority.

D

Do

Thermising

- Thermisation can only be used:
  - if the milk is less that 72 hours old,
  - with cheese that has a pH of 5.6 or less, within 72 hours of the start of production,
  - with cheese that has a moisture content of less than or equal to 39% (w/w) at the end of maturation.
- When thermising milk you must:
  - rapidly heat it to at least 64.6°C for at least 16 seconds, then cool it rapidly and start cheesemaking immediately, and
  - store the cheese at 7°C or higher for at least 90 days after the cheese was made, before selling.
- When thermising curd you must:
  - ensure it reaches at least 48°C at the coolest part, and
  - store the cheese at 10°C or higher for at least 180 days after the cheese was made before selling.
- You must **either**:
  - keep **records** of every batch of milk (or curd) given heat treatment, these must include:
    - the date and time of the treatment,
    - the quantity of milk (or curd) treated,
    - the temperature applied and the time that it was continuously applied, or
  - **prove** that your heat treatment method works every time. See the ***'Proving your method works every time'*** card.

D

Do

- For cheese made with thermised milk or curd you must keep **records** that include:
  - a minimum of weekly measurements of the storage temperature (taken at the coolest the point in the storage area), and
  - the date that the cheese is safe for sale.

S

Show

What do you need to show?

- Show your verifier:
  - any other approved heat treatment combinations you use if applicable,
  - how you know when a batch of thermised cheese is safe for sale,
  - your heat treatment **records.**

Controlling pH

K

Know

What do you need to know?

- The acidity (pH) of milk/cheese changes during the cheesemaking process. This is because the good bugs used during cheesemaking use the sugars in milk for energy to grow – this process makes lactic acid which prevents the growth of bad bugs.
- If the pH of your milk is above 7, your milk is probably unsafe to use to make cheese.
- pH is critical to making cheese. It dictates the structure/texture of the final cheese, and can also indicate when cheese is unsafe or unsuitable.
- Monitoring your pH lets you know if you have a slow/stuck acidification, or pH reversal.
- The most common causes of slow acidification are:
    - antibiotic residues in milk,
    - something was wrong with your culture,
    - good bugs have been outcompeted by bad bugs,
    - sanitiser residues.
- Any cheese that is made following a slow or stuck acidification is unsafe for human consumption.

K

Know

- Some types of cheeses become less acidic (pH is reversed) during aging. For some cheeses, this could be a sign of contamination.
- You won't need to do as much microbiological testing on your product if you can show your process produces the same pH curve every time.
- The pH curve is different for different products, so you need to develop a curve for each type of cheese you make.
- You need to develop your process for making cheese. Follow the "***Designing your cheesemaking process***" card to do this. Once you've got your process, you can use a pH curve to monitor it's working.

D

Do

What do you need to do?

- You must measure and record the pH (or titratable acidity) of raw milk, whey or cheese:
  - when adding the starter culture,
  - hourly until cutting the curd,
  - after cutting,
  - after draining,
  - after hooping/cheddaring,
  - 24 hours after it is made,
  - at maturity,
  - at the end of shelf life (you only have to do this step as your establish your curve).
- You must repeat this process at least 3 times for each type of cheese you make.

D

Do

- Use your results to plot a pH curve and calculate the limits you need to stay within.
- Always stay within the pH, moisture, salt and water activity limits for every batch of cheese you make.
- Follow the ***'When something goes wrong'*** card if you operate outside of your process limits.

S

Show

What do you need to show?

- Show your verifier:
  - a **record** of your pH curve and the operating limits for each product you make.
- Explain to your verifier:
  - how you use your pH curve to monitor your cheesemaking process.

Keeping foreign matter out of food

K

Know

What do you need to know?

- Many food complaints made to authorities are related to finding foreign matter in foods.
- Foreign matter includes dead pests (e.g. flies, mice etc.), hair, fingernails, band aids, coins or jewellery, bits of cleaning cloth, razor blades, nuts, bolts, plastic and cardboard, stones, twigs, glass, metal shards, etc.
- Glass thermometers in a processing environment can be a source of contamination and should be avoided.

Why is managing the risk of foreign matter in foods important?

- Some foreign matter is unsafe, including hard or sharp objects like glass, hard plastic or stones etc. These can cause damage to the mouth, tongue, throat, stomach, intestine, teeth and gums.
- Keeping foreign matter out of food is important and can be done in a variety of ways. This depends on the types of foods and chance of foreign matter occurring.
- Food is unsafe if you think it contains:
    - glass,
    - hard or sharp foreign matter that measures 7mm to 25mm, in length, or

K

Know

- hard or sharp foreign objects less than 7 mm or between 25mm and 77mm in length and the primary intended consumers of the product are:
  - children under 6 years old,
  - elderly people,
  - people with dentures.

- Larger objects may not be a safety risk but can make your cheese unsuitable.
- Foreign matter from people or pests that gets into food that won't be treated (e.g. heated) to kill bugs (or after treatment to kill bugs) can cause people to get sick.
- Much of the foreign matter found would not cause illness or harm, but could damage your reputation.
- Even if foreign matter doesn't cause harm or make your customer sick, they will often link it to unsafe food practices.
- Many of the procedures in this guide will help, but you could also consider filtration or sieving, visual inspection, colour sorting, implementing jewellery policies for workers, metal detection, x-ray inspection, etc.

D

Do

What do you need to do?

- Implement procedures to prevent foreign matter getting into food and/or to detect foreign matter in final products.
- Always make sure nothing in your process contaminates your food with foreign matter.
- Calibrate and check the performance of any foreign matter detection equipment such as metal detectors, x-ray or colour-sorting units.

S

Show

What do you need to show?

- Show your verifier:
  - how you keep foreign matter out of food, or check that it is not present in final foods,
  - how you know any foreign matter detection equipment is regularly calibrated.

Knowing what's in your food

K

Know

What do you need to know?

- You must know, and be able to tell your customers what's in their food so they can make informed choices. This is especially important for people with food allergies.
- You must know what's in all of the ingredients you use. If you are importing food, you must understand the label.
- There are 11 common food allergens you must know about. These are sulphites, cereals containing gluten (e.g. wheat), shellfish, eggs, fish, milk, peanuts, soybeans, sesame seeds, tree nuts and lupin.
- Food allergies can result in life-threatening reactions that can occur within minutes of eating the food. Know which foods you sell that can cause allergic reactions.
- You need to know about additives and food composition rules in the Australia New Zealand Foods Standards Code. See the *'Getting ready to make cheese'* card.

D

Do

What do you need to do?

- Check the labels of your ingredients. You must be able to understand them.
- Check all of the ingredients in the food, as well as sauces, garnishes served with, or added to, the food.

D

Do

- Keep details of the ingredients you use, (e.g. record and follow your recipes so you know what allergens they contain).
- Tell your staff which foods contain any of the allergens listed in the **Know**. They must know how important it is that they are aware of allergies and allergens.
- Either the ☐ day-to-day manager or ☐ delegated person (tick as appropriate)

  Name: _____ must be able to talk to customers about what's in their food.

S

Show

What do you need to show?

- Show your verifier how you know what is in the ingredients you use.
- Your verifier may ask staff to tell them which foods contain allergens.

Packaging and labelling

K

Know

What do you need to know?

- Unsafe and/or unsuitable packaging can make your food unsafe. You need to know that the packaging you use is food grade so it keeps your food safe.
- Not all foods have to be labelled, but for those that are, the labels must meet the rules in the Australia New Zealand Food Standards Code (the Code).
- Foods can become unsafe over time, even though it still might look, smell and taste OK. It's important to let your consumer know when to eat your food by, by calculating the shelf-life and providing a Best Before or Use By date. You need to make sure you calculate this date correctly.
- Raw milk cheeses may be unsafe for vulnerable people (i.e. young children, older people, pregnant women and people with a compromised immune system). You should consider letting affected people know raw cheese is unsafe for them.

K

Know

Package

- Only use packaging that doesn't cause, or contribute to, food becoming unsafe or unsuitable.
- Check that packaging is intended for your type of foods or use.
- Handle and store packaging with the same care as a food or ingredient.

Why is packaging important?

- Packaging protects your food from becoming unsafe or unsuitable.
- Anything that touches your packaging (i.e. bugs, chemicals or foreign matter) can make your food unsafe or unsuitable.

Labelling

- You must meet the rules about labelling in the Code, or specifed by the importing country, for any foods you label.
- If you are supplying bulk foods, these will generally need to be accompanied with a packing or specification sheet. You must supply the same information that would go on the food label.
- If your food doesn't have to be labelled, you must still be able to tell your customers:
    - what's in the food,
    - any warning statements,
    - if the food is made from or contains genetically modified ingredients or irradiated foods.

K

Know

Why is labelling important?

- Labels allow your customers to make good and safe food choices.
- Some of your customers may have medical conditions (e.g. allergies) which require them to include or avoid certain foods in their diet.
- Consistency in the layout of label (e.g. having a nutrition information panel and using minimum font sizes) can help your customers make good food choices.
- MPI has developed a guide to help you create your food label. Follow **'A guide to food labelling'** www.mpi.govt.nz/document-vault/2965 to write your label.

Why calculate the shelf-life of a food?

- You may need to work out the shelf-life of a food so that you can apply either a use-by or best before date.
- There is a guide to help you work out shelf-life. Follow **'How to determine the shelf-life of food'** http://mpi.govt.nz/document-vault/12540
- Food that has a shelf-life of more than 2 years, does not need to be date marked.

D

Do

What do you need to do?

Package

- If you are packaging food:
  - implement procedures for ensuring packaging will not cause, or contribute to, food becoming unsafe or unsuitable,
  - check that packaging is food grade when you buy it. **Either:**
    - purchase packaging labelled as being suitable for food, or
    - get an assurance from your supplier that it is food grade,
  - calculate the food's shelf-life, and apply the appropriate date marking,
  - identify whether you need to **either:**

  ☐ label your food, or

  ☐ provide a packing or specification sheet with bulk foods (e.g. catering packs).

Label

- You must meet the rules about labelling in the Code for any foods you label.

D

Do

- Labels or specification sheets must include:
  - name of the food,
  - lot/batch identification,
  - name and address of your New Zealand or Australian business,
  - any applicable advisory statements, warning statements and declarations,
  - any conditions for storage and use,
  - ingredients list (including a statement if the milk is raw or thermised),
  - date marking (e.g. use-by, best before etc.),
  - nutrition information panel,
  - information about nutrition, health and related claims (only if you've made a claim),
  - information about characterising ingredients and components,
  - if the product is or has been made with genetically modified foods or irradiated foods.

S

Show

What do you need to show?

- Show your verifier:
  - your packaging and how you know it is safe and suitable for the foods you are packaging,
  - your food labels and how you know what to put on them,
  - how you worked out the shelf-life of a food.

Safely storing and displaying

K

Know

What do you need to know?

- It is possible for food to become unsafe while being stored
- Keeping food at the right temperature prevents bugs from growing quickly.
- You need to know how to keep food at the right temperature to stop bugs from growing.
- Some foods must be kept cold (chilled or frozen) to stop bugs growing.
- Some types of cheese (soft or fresh cheeses - especially raw milk cheeses) need to be kept at or below 5°C to keep them safe. Other varieties (e.g. thermised hard cheeses) must be aged at a specific temperature for a specific time to ensure they are safe. You need to know which conditions you need to meet for your type of cheese.
- Food that is not covered, clearly labelled or stored away from food can become contaminated.
- Food needs to be stored away from non-foods (e.g. cleaners, sanitisers and animal feed) as they can be absorbed by food and make it unsafe or unsuitable.
- You need to know the difference between:
    - foods you need to keep cold to keep the safe (e.g. raw milk), and
    - foods you can keep cold so your customer enjoys them (e.g. beer).

K

Know

- Foods and ingredients should not be used or sold past their use-by date.

’Display’ means the storage of food in a retail/public area.

Why is safe storage and display important?.

- Thermised cheeses need to be aged for a specific amount of time at specific temperature to make it safe.
- The risks of contamination are minimised if foods are stored in rooms/stack systems that can be easily cleaned (and don’t absorb or draw moisture) and kept free of pests.
- Floors can be a source of contamination as pooling water and dirt can be brought into storage areas on shoes or tyres and can make food unsafe.
- Storage conditions required to keep food safe can be found on the food labels or from the supplier. It’s important to follow the directions.
- Some foods (e.g. powdered foods or ingredients) need to be stored in a place where humidity is controlled to prevent the food from absorbing moisture. If dried foods absorb too much moisture this allows bugs to grow and the food to become unsafe.
- Many foods have a use-by date because bugs can grow slowly in them even when they’re stored safely. Foods and ingredients with a use-by date can make people sick if they are used or eaten after this date. It’s important to have a stock checking/rotation system to check that food is not used or sold after the use-by date.

K

Know

- A best before date is different from a use-by date. A best before date indicates the quality of the food might not be as good after this date, but it is unlikely to make people sick if they eat it.
- Packaging comes into contact with food, so it's important to keep it stored as safely as you would keep food, so it doesn't become a source of contamination.

D

Do

What do you need to do?

- Store food and packaging safely.
- Create a system for making sure that food is regularly checked for use-by dates and can't be used or sold after the use-by date.
- You must check weekly that the appropriate storage/ maturation temperatures are being met for thermised cheeses.
- You must check daily that chilled food that must be kept under temperature control to keep it safe is being kept at 5°C or lower by: (tick as appropriate)
  - ☐ using a calibrated probe thermometer to check the temperature of food or other substance (e.g. a container of water), or
  - ☐ using a calibrated infrared thermometer to measure the surface temperature of the food, or
  - ☐ using a calibrated automated system to monitor the internal temperature or surface temperature of your food, or
  - ☐ using another method that accurately measures the temperature of food.
- Check that food in the freezer is still frozen. You don't have to measure the temperature of the frozen food.

D

Do

- Follow the 2-hour/4-hour rule, as shown in the diagram below for foods that must be kept under temperature control to keep them safe:

0 hours	Less than 2 hours	Less than 2 hours	4+ hours
Food is taken out of the fridge. Food is 5°C or below	• serve or use ready to eat food, or • put back in fridge and chill to 5°C or less	serve ready to eat food	throw it out

- If you are storing foods that need to be under controlled humidity to keep them safe, install and monitor a humidity control system.
- Follow the procedure on what to do ***'When something goes wrong'*** ***i***f you find that food is not being kept at the correct temperature and/or humidity.

S

Show

What do you need to show?

- Show your verifier:
  - how you check the temperature of chilled food,
  - how you check a storage/maturation temperature of thermised cheese,
  - how you control and check humidity (if required),
  - that food is stored appropriately, labelled and covered.

Transporting

K

Know

What do you need to know?

- When transporting food that would normally be kept cold or hot, you must take steps to keep the food out of the temperature danger zone (5°C - 60°C) to stop bugs growing.

D

Do

What do you need to do?

Control temperatures

- Food must be transported and delivered at the correct temperature. You must regularly check this.
- Keep frozen food frozen.
- Only deliver food in the temperature danger zone if it's going to be eaten within 4 hours of entering the temperature danger zone.
- Transport milk that must be kept cold to keep it safe at or below 6°C.
- Transport other chilled food at or below 5°C to keep it safe and suitable.
- Use appropriate equipment for transporting food so you know your food will be safe. Use: (tick as appropriate)
- ☐ insulated bags/boxes
- ☐ portable chillers
- ☐ hot-holding equipment
- ☐ refrigerated truck/tanker
- ☐ other_____

D

Do

Plan before transporting

- Animals must not be able to access the parts of your vehicle used for food.
- All parts of the vehicle that you use to transport food or food equipment must be clean (and sanitised if going to be in direct contact with ready-to-eat food).
- Throw out:
  - any food that has become contaminated,
  - food that has been kept in the danger zone for more than 4 hours.

S

Show

What do you need to show?

- Show your verifier:
  - how you make sure food is kept at the correct temperature when being transported,
  - what method you use to maintain temperatures and keep foods separate while transporting food,
  - your vehicle used for transporting food.
- A **record** of the temperature your food was transported at if it was not used within 4 hours.

When something goes wrong

K

Know

What do you need to know?

- Things don't always go as expected. You must have a procedure for dealing with things that go wrong in your plan.
- You must keep records for at least 4 years.
- Records must clearly describe what went wrong, who was involved and how the problem was fixed.

D

Do

What do you need to do?

- Take immediate action as soon as a problem affecting food safety and/or suitability is identified. Record the action that you took.
- Use your records to look over the past week/few days. Determine if anything has gone wrong in your plan, for example:
    - fridge temperatures were too high,
    - there was a sign of pests,
    - received food was not at the correct temperature,
    - milk was cooled too slowly,
    - milk or cheese was transported at the incorrect temperature,
    - there was a problem with milk and it was then sold for human consumption,
    - milk did not meet the correct pasteurising time/ temperature combinations,
    - the cheese making process went outside your limits.

D

Do

- If something's gone wrong, identify where the problem started and how many times it happened. Identify if a procedure is missing from your plan.
- If the food you have processed is unsafe or unsuitable, you must identify if:
  - a recall is required,
  - you need to make an application to dispose of non-conforming dairy product,
  - you need to isolate any food and stop it from being sold or used.
- Fix the problem yourself or tell the person responsible for that area about the problem.
- Take action to prevent the problem from happening again (e.g. retraining staff).
- Keep clear, accurate and complete records for at least 4 years.
- Notify your verifier as soon as possible if any of your food has become unsafe or unsuitable when following any procedures in your plan.

S

Show

What do you need to show?

- Show your verifier your **records** from times where things have gone wrong.
- You must show your verifier a **record** of:
  - what the problem was,
  - what you did to immediately fix the problem,
  - what changes you made to stop the problem from happening again,
  - how you kept food safe or made sure no unsafe and unsuitable food was sold.

Dealing with customer complaints

K

Know

What do you need to know?

- You must be able to identify if the complaint is about food safety, suitability or quality.
- Customer complaints about food safety and/or suitability must be dealt with immediately.
- You must have someone responsible for dealing with customer complaints.

D

Do

What do you need to do?

- Identify who is responsible for dealing with complaints:

  ☐ day-to-day manager or

  ☐ delegated person
  (tick as appropriate)

  Name: _____

- Identify if the complaint is about food safety, suitability or quality.

D

Do

- If the complaint affects the food safety and/or suitability of a batch or individual item/dish, you must separate until proven to be safe or throw out affected food and associated ingredients,
  - check food that has been in the same area or has been prepared at the same time,
  - identify where the problem started,
  - fix the problem,
  - take action to prevent the problem from happening again.
- Notify your verifier:
  - if someone who eats your food ends up sick, or
  - could end up sick if they eat your food.

S

Show

What do you need to show?

- Show your verifier a **record** of all of the following if the complaint is about food safety or suitability:
  - the contact details of the person who made the complaint,
  - the date and time of the purchase,
  - your food that was affected including the batch/lot ID,
  - what the complaint was about,
  - the cause of the problem,
  - the action you took immediately and the action you took to prevent it from happening again.

Recalling your cheese

K

Know

What do you need to know?

- Food that is unsafe or unsuitable can make people sick.
- You must be able to recall your food if there's a problem.
- The records you keep may help you in the event of a recall.
- There is helpful information about recalling food on the MPI website: http://www.foodsafety.govt.nz/recalls-warnings/
- There can be 2 reasons for recalls:
  1. your supplier may need to recall a food product or piece of equipment or packaging you use, or
  2. you may need to recall the food you have made from your customers.

D

Do

What do you need to do?

- If a food product or piece of equipment or packaging that you have used in your business must be recalled, you must:
  - be able to identify if your food has been affected,
  - identify if the recalled food is on display, in storage or been used as an ingredient in another food,
  - identify if the recalled food contact item (e.g. plastic container) is being used in your business,

D

Do

- be able to follow and meet with all of the instructions in the recall notice,
- separate any recalled cheese and label it as 'Recalled – do not use',
- tell your supplier how much of their affected product is at your food business,
- arrange for affected product to be picked up and disposed of.

- If you have made and sold food which is unsafe or unsuitable, you must do all of the following:
  - call 0800 00 83 33 and ask for the Food Compliance team (if during work hours) or ask for the on-call MPI Food Safety and/or Animal Products Officer (if calling after hours),
  - complete the recall hazard/risk analysis form and send it to your Food Safety and/or Animal Products Officer http://www.foodsafety.govt.nz/elibrary/industry/recall-hazard/index.htm
  - you must report to MPI your decision to recall within 24 hours,
  - draft a newspaper advertisement using the appropriate template:
    - food recall notice template – General products http://www.foodsafety.govt.nz/elibrary/industry/Food_Recall_Warning-Advertisement_Microsoft.rtf
    - food recall notice template – Allergen warning http://www.foodsafety.govt.nz/elibrary/industry/Food_Recall-Advertisement_Microsoft.rtf

D

Do

- send the newspaper advertisement to your Food Safety and/or Animal Products Officer for approval. Publish the advertisement once approved. All advertisements must be approved by your Food Safety and/or Animal Products Officer before publishing,
- ask your Food Safety and/or Animal Products Officer if there is anything else you have to do (e.g. point of sale notice (Food recall notice template - Point of sale: http://www.foodsafety.govt.nz/elibrary/industry/Food_Recall-Microsoft_Word.rtf), press release (Example press release: http://www.foodsafety.govt.nz/elibrary/industry/Example_Press-Demonstrates_Main.htm), radio advertisement, website notice) and complete as required.

- Test your recall procedures occasionally by holding 'mock recalls'.

S

Show

What do you need to show?

- Show you verifier:
  - the procedure or plan you have in place to recall food if you need to,
  - **records** for any mock recalls you have carried out,
  - a **record** of:
    - completed recall hazard/risk analysis form,
    - a copy of the recall notice.