Ministry for Primary Industries
Manatū Ahu Matua

Farm House Cheese Risk Management Programme Template

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A guidance document issued by the Ministry for Primary Industries

New Zealand Government

Title

Farm House Cheese Risk Management Programme Template

About this document

This Risk Management *Template for* Farm House Cheese has been developed to support small operators.. This template specifies process and cheese composition criteria that mean testing costs, and potentially verification costs can be reduced significantly. Cheesemakers have a choice between meeting the composition criteria specified in this template, or developing an RMP that incorporates sufficient product testing to demonstrate their product is reliably safe and suitable.

You will be required to carry out testing of your cheese composition to demonstrate it meets the requirements of this programme consistently.

Related Requirements

Animal Products (Dairy) Regulations 2005

NZCP1: Code of Practice for Design and Operation of Farm Dairies

Animal Products (Dairy Processing Specifications) Notice 2006

DPC1: Animal Products (Dairy) Approved Criteria for General Dairy Processing

DPC2: Animal Products (Dairy) Approved Criteria for Farm Dairies

Change history

Previous Version Date	Current Version Date	Section Changed	Change(s) Description
	23 May 2014		NEW Document

Contact Details

For registration send the completed programme and application form (AP4 available on the MPI website) to:

Branch Planning, Systems and Support

Ministry of Primary Industries

PO Box 2526

Wellington 6140

Attention: Manager (Appointments and Approvals)

Disclaimer

This guidance does not constitute, and should not be regarded as, legal advice. While every effort has been made to ensure the information in this guidance is accurate, the Ministry for Primary Industries does not accept any responsibility or liability whatsoever for any error of fact, omission, interpretation or opinion that may be present, however it may have occurred.

Considerable effort has been made to ensure that the information provided in the *Farm House Cheese Risk Management Programme Template* is accurate and suitable for small dairy farming and hard cheesemaking situations.

Nevertheless, this template is offered STRICTLY on the basis that the Crown, the Ministry for Primary Industries (MPI), its statutory officers, employees, agents, and all other persons involved with the development or publication of, or any other kind of work in connection with this Template:

a) disclaim any and all responsibility for any inaccuracy, error, omission, or any other kind of inadequacy, deficiency, or flaw in, or in relation to, the Farm House Cheese Risk Management Programme Template; and
b) without limiting (a) above, fully exclude any and all liability of any kind, on the part of any and all of them, to any person or entity that applies the Farm House Cheese Risk Management Programme Template.

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1 Scope

1.1 Part A - Farm Dairies Programme for Farm House Cheese

This template only applies to:

(1) harvesting, filtering, cooling and storage of raw milk at farm dairies

(2) raw milk (excluding colostrum) for the manufacture of cheese of type defined in 1.2.2, with heat treatment, intended for sale in New Zealand

(3) farm holdings with no more than 6 cows or 10 Buffalo or 24 goats or 24 sheep, where the animals are owned (or leased) by and are under the direct care of the farm dairy operator.

NZCP1: Code of Practice for the Design and Operation of Farm Dairies applies to this programme and should be read in conjunction with the programme.

The Director General will consider an application from a farm dairy operator to accept this Template, without modification, provided that the qualifying criteria are met and the Director General is satisfied that the Template is suitable for the operator and the nature of the farm dairy operations intended to be covered. No evaluation is required prior to making application.

1.2 Part B – Farm House Cheese Manufacture

1.2.1 This template only applies to businesses that:

(1) manufacture cheese of a type specified below, intended for sale and/or consumption within New Zealand;

(2) do not produce more than 1,000 litres of milk per week;

(3) only process milk produced by animals they own and/or lease that are under their direct care;

(4) do not perform any animal product processing activity that requires a RMP other than:

a) harvesting and storage of milk,
b) manufacture of cheese of a type defined below,
c) storage/maturation of the cheese they have manufactured, and
d) transport of the cheese following maturation;

1.2.2 This programme only applies to the manufacture of cheese that:

(1) uses raw milk that is no older than 24 hours for thermised product and 72 hours for pasteurised product;

(2) is treated in accordance with the pasteurisation or thermisation heat and storage conditions set out in section 22;

(3) has a commercial bacterial starter culture added that includes a lactic acid producing strain capable of achieving the pH and process parameters specified;

(4) is made using a process reach that does not exceed 5 hours and 30 minutes for the addition of the starter culture through to draining (running off) whey

(5) has a moisture % of less than 39.0% from the end of maturation through to the end of the products shelf life;

(6) has a pH of less than 5.6 at 72 hours from the start of manufacture through to the end of the products shelf life;

(7) has a salt in moisture % of at least 4% (calculated as salt %/moisture %); and

(8) has received the minimum continuous maturation conditions specified.

2 Background

By adopting and completing this template as the RMP, Farm House cheese manufacturers are not required to submit the RMP for independent evaluation. The template programme must be submitted and adopted in full, with no amendments. This template may be used as a model for the development of an alternate RMP, however such an RMP will require evaluation by a person recognised by MPI prior to applying for registration.

3 Programme Template

1. Programme	
Programme Title (optional): Version (number or date):	MPI Use Only Programme ID:

2. Operator Name, Address and Contact Details	
2.1 Full legal name (Company, sole trader, partnership): 2.2 Trading name (if different from legal name):	
2.3 Physical address of the business:	Phone No: Mobile No: Fax No:
2.4 Postal address (for communication):	E-mail: [ ] I give consent to being provided electronic information.
2.5 Physical address of the farm dairy (place where animals are milked), if different from the physical address of the business:	Maximum number of milking animals are: [ ] cows [ ] goats [ ] buffalo [ ] sheep

2.6 Primary Contact and position or designation:

3. Programme Amendments and Documentation Control

I confirm that:

[ ] This programme only applies to the harvesting, filtering, cooling and storage of raw milk and manufacture of cheese as provided for under sections 2, 4 and 16.

No significant amendments are permitted, but additional cheeses may be added and amendments made to supporting systems and the documented process provided that all requirements under this programme continue to be met.

[ ] All procedures, records and other documents are to be legible, dated or marked to identify the version, and readily accessible.

[ ] All records that demonstrate compliance with this programme, for example make sheets, must be legible and stored in a manner which protects the records from damage, deterioration or loss. Electronic records must be managed to ensure that all data is protected and preserved.

[ ] Obsolete documents, procedures and records will be retained for 4 years.

Records to be kept include:

i) Activity records (cleaning and sanitation programme records, maintenance and inspections, internal audit reports, supplier agreements/specifications etc);
ii) Quality control and processing records (make sheets, data logger printout for heat treatment if applicable);
iii) Traceability records including ingredients, with sufficient detail to allow the identification of dairy products back through heat treatment to the raw milk; and
iv) All test results and certificates, including those related to water and ingredients.

4 Part A – Farm Dairies Programme for Farm House Cheese

4. Scope and Restrictions
This part of the programme covers: • the harvesting, filtering, cooling and storage of raw milk at the location identified under section 2, and excludes colostrum (except for that used for calf feeding, as provided for in section 13) and specialty milk Restrictions • farm holdings with no more than 6 cows or 10 Buffalo or 24 goats or 24 sheep, where the animals are owned (or leased) by and are under the direct care of the farm dairy operator; • raw milk will only be harvested from animals owned (or leased) by the programme operator; and • the raw milk will only be used for the manufacture of heat treated products that are intended for sale in New Zealand.

5. Responsible Persons and Agencies		
Role	**Who**	**Contact Details**
Recognised Verification Agency		
Farm dairy assessor (if not above Agency)		

6. Supporting documents and references – Note: the Operator should read these	
Regulations and supporting documents that apply to this programme	Animal Products (Dairy) Regulations 2005 NZCP1: Code of Practice for Design and Operation of Farm Dairies
Other regulatory requirements specific to raw milk (for information only)	Animal Products (Dairy Processing Specifications) Notice 2006 DPC1:Animal Products (Dairy) Approved Criteria for General Dairy Processing DPC2: Animal Products (Dairy) Approved Criteria for Farm Dairies

7. Milk Filtering, Cooling and Storage

Filtration

Milk will be filtered:

[ ] at the farm dairy

[ ] at the start of the manufacturing process.

Cooling

Milk will be either:

i) used immediately for further processing; or
ii) cooled immediately to 18°C or below, and then cooled to below 7°C within 3 hours from the completion of milking; or
iii) cooled to 6°C or below within 2 hours of the completion of milking.

Storage

The bulk milk tank/container(s) must be clearly labelled to show the identity of the contents

Milk will not be stored for more than 3 days prior to collection and/or further processing.

Milk Temperature

The temperature of the milk along with the date and time of collection and use will be recorded on *the milking record sheet* in the *farm dairy diary*.

8. Farm Dairy Water Quality

Water used in the farm dairy is sourced from: *(tick as appropriate)*

[ ] network/council supply, Name of supply _____

[ ] surface or groundwater, procedure 8.1 also applies.

[ ] roof water, procedure 8.2 also applies.

Water pipes are:

- kept in a sound and clean condition to prevent contaminants entering the system
- flushed after repairs or maintenance to clean the system
- flushed to remove stagnant water if they are not used for more than seven days

Water tanks:

- are kept clean and in good repair to prevent build-up of sediment, see cleaning schedule.
- have covered and screened openings to protect against access by animals, birds and debris.

Identification of water not to be used in the farm dairy

Water tanks, pipes and outlet taps of any on-site water supplies that are not suitable for food processing are

clearly identified (e.g. grey water for irrigation)

Backflow devices

Backflow devices are maintained in accordance with the manufacturer's instructions to prevent contamination of clean water.

Water Quality

The water used to clean and sanitise the milking plant is:

[ ] potable and

[ ] meets the clarity standard of 5 NTU or below and *E. coli* standard of absent in 100 mls, with sampling and testing undertaken at the time of each verification audit or by the farm dairy assessor. Results are kept with the *farm dairy diary*.

Water Management Controls

The following water management controls must are applied when water is not potable and/or fails to consistently meet the clarity and *E. coli* standard above:

i) The milking plant and equipment is rinsed with a solution of water and sanitiser after cleaning and then drained;
ii) Raw water is NOT used:

- to flush the milking plant and equipment at the start of milking;
- to flush milk into the farm vat/raw milk container at the end of milking;
- to rinse the milking plant after CIP; or
- for any other purpose where it may come into contact with raw milk.

8.1 Farm Dairy Water Quality – Surface or Ground Water

The water source is *(tick which applies)*:

[ ] surface or insecure groundwater. *(Procedures on this page apply)*

[ ] secure groundwater. *(A supply that meets the definition of secure in the Drinking Water Standards for New Zealand. While this standard continues to be met no further action is required).*

[ ] a supply that is currently subject to a Public Health Risk Management Programme. *(While programmeis followed, no further action is required).*

Surface or insecure groundwater

- Wherever possible on-site water intakes are protected from:

  – livestock – fenced-off from access to the water source (e.g. stream, lake, bore)
  – animal effluent - manure spreading does not take place on pastures near the water source
  – silage - is not stored near the water source
  – human waste – there is clear space (buffer zone) between the water source and land used for human effluent disposal (e.g. septic tank drainage fields, long drop toilets)

The local council has been contacted to determine likely naturally occurring chemicals in source water that may be of concern to the water supply. These are:

Checks have been carried out for activities that may cause chemical contamination of the water supply, (e.g. industry, landfills, chemical storage areas) upstream of, and surrounding, the water source. The following activities/contaminants may be of concern to the water supply:

The potential hazards identified above have been taken into account in water treatment.

Regular checks are made to identify any new sources of hazards or changes to hazards (see Maintenance section)

Groundwater sources

The bore head has been designed correctly and maintained so that it is protected against surface contamination.

Water Treatment

The water treatment system used is: *(tick appropriate box(es))*

[ ] filtration

[ ] chlorination

[ ] UV disinfection

[ ] other (specify) ……..

The water treatment system is installed and maintained in accordance with the manufacturer's instructions.

Checking the treatment system is working:

The treatment system is regularly checked, in accordance with the manufacturer's instructions, to ensure it is working effectively.

8.2 Farm Dairy Water Quality – Roof Water

Water collection

[ ] Water is collected from roofs and gutters made from safe substances (e.g. no lead based paint, bitumen, exposed timber, or copper guttering)

[ ] Contamination from birds, animals, and leaves is reduced by screening guttering, removing overhanging branches and vegetation.

[ ] Aerials and satellite dishes are mounted off the roof to reduce contamination from birds.

[ ] A first flush device is installed and used to divert the first flush of water when it rains.

Water Treatment

The water treatment system used is *(tick appropriate box(es))*:

[ ] filtration

[ ] chlorination

[ ] UV disinfection

[ ] other (specify) ……

The water treatment system is installed and maintained in accordance with the manufacturer's instructions.

Checking the treatment system is working:

The water treatment system is regularly checked, in accordance with the manufacturer's instructions, to ensure that it is working effectively.

9. Milking Animal Health

Text in italics should be amended to reflect your own procedures

Only milk from healthy animals will be offered for supply. Procedures for the identification, segregation and treatment of milking animals and, when advised by a Veterinarian , withholding of milk from supply are detailed below.

Animal Identification:

E.g. We know all our cows by name, and they also have numbered ear tags. Our cows are:

Name	***Colour***	***Eartag***
Betty	*Light brown*	*1 (blue)*
Daisy	*Black and white*	*2 (green)*
Jenny	*Black with white markings*	*3 (pink)*

Diseased or treated animals and milk withholding:

Animals will be treated using veterinary medicines recommended by the Veterinarian. If one of our cows has had a treatment, for example antibiotics, we record this *on the animal health register. We then milk this cow (or cows) last, and their milk does not go into our storage vat. The milk is diverted to a 20 litre pail via the divert tap, and this milk is used to feed our neighbour's pigs (if the vet has advised the milk will be suitable for this), or it is dumped via the drain to the septic tank.* A record will be kept of animals isolated on the advice of a Veterinarian as well as treatments given to milking animals at any time, including those given while the animal is dry. These records are held *in the farm dairy diary*.

The milking plant and equipment will be hot washed after milking diseased or treated animals.

Foremilk will be examined daily for mastitis, either visually or using a rapid mastitis test. *We carry out a mastitis check by stripping the milk from one teat at the beginning of each milking. We rotate around quarters so all teats have been checked once every 4 milkings.* We record our findings *on the mastitis check sheet in the farm dairy diary*.

Milk from milking animals of unknown health status, such as purchased animals, is to be withheld until the

animals are confirmed to be healthy and their milk free of residues. This may be achieved by confirming the Tb status, reviewing the Animal Status Declaration form (ASD), obtaining a statement from the vendor, or through veterinary inspection. Records confirming the health of purchased animals will be kept *in the farm dairy diary*.

Tb Status: _____ **EBL Status:** _____

10. Veterinary Medicines and other Chemicals

A record will be kept *in the farm dairy diary* of all chemicals held or used in the farm dairy (product & purpose e.g. teat spray).

No pesticides will be stored in or near the farm dairy or place of milking, and no chemicals will be stored near milk.

Chemicals are stored_____ *(state location of chemical store)*.

Prescription veterinary medicines will be securely stored _____*(state location of vet meds store)*.

11. Farm Dairy Use and Milking Procedures

The milking plant and equipment, including bulk milk tank/milk container(s), are readily identifiable and only used for the handling and storage of milk.

Cleaning

After each milking:

- - the farm dairy will be cleaned to ensure the milking, milk storage; milk collection and yard areas are clean.
- - the milking plant/equipment will be cleaned and sanitised using chemicals approved by MPI/MAF/NZFSA for use in farm dairies, and then drained
- - the milk storage tank/container(s) will be cleaned, sanitised and drained once milk has been collected/removed.

The cleaning programme followed is *(document the cleaning programme here)*

12. Milk Supply and Monitoring

Record of Supply

A record will be kept of each batch or consignment of milk supplied or used. This will include the date, time, quantity, and temperature at collection/use.

Monitoring

Every batch of milk harvested under this programme will be monitored for defects and periodic samples taken and tested as follows:

Parameter	Frequency	Tolerance Limit
Sensory	per batch	no odour, taint, discolouration; no spoilage or fat damage; no visual sediment or foreign matter
APC (30°C/72 hrs or by Bactoscan),	every two months	100,000 cfu/ml
Total Coliforms	every two months	100 cfu/ml

If the tolerance limits shown are exceeded then action will be taken to remedy the situation and follow-up testing undertaken to confirm that control has been restored – see also section 14.

Document here the follow-up action you will take - For example, undertake a check of milking equipment, wash temperatures, milk temperatures during cooling and storage, and check foremilk for signs of mastitis. If no cause is found then consult your verifier or farm dairy assessor.

Also note here how many follow-up tests will be taken, e.g. daily samples will be taken and tested until 3 days of results within tolerance limits have been achieved.

Samples representing the overall farm supply are taken when the milk is collected and will be analysed in a MPI recognised dairy laboratory using MPI accepted test methods.

Results of testing undertaken are held *in the farm dairy diary*.

13. Colostrum

The milk produced in the first 4 days and 8 full milkings post parturition is colostrum and may be used for feeding animals but must be kept separate from white milk, labelled clearly, and not used for the manufacture of cheese.

Colostrum from cows previously treated with PregSure BVD vaccine is not to be fed to calves under 4 days of age.

14. Non-conforming Dairy Material

Regulation 5 of the Animal Products (Dairy) Regulations 2005 will be applied as if this programme were a risk management programme. As such I need to contact my verifier (MPI) within one working day if something has gone wrong (non-compliance with my programme) if the milk was used for human consumption.

I keep records when this happens in *my farm dairy diary*.

When milk was not used for human consumption (e.g. was withheld and not used for further processing for human consumption) it was recorded on *the "Records for vet visits and withheld milk" sheet in my farm dairy diary* so is not subject to the requirements of the previous paragraph.

5 Part B – Farm House Cheese Manufacture

15. Definitions	
Start of manufacture	means the first process following raw milk storage that is intended to change the nature of the milk in any way, including heating, filtering (but excluding raw milk filtering in conjunction with harvesting), separation, concentration, and the addition of any other material.
End of Maturation	means, for this programme, the end of the minimum maturation period specified for pasteurisation or thermisation, as applicable.
TA	refers to titratable acidity.

16. Product/Process Description and Limitations	
Product	Hard cheese manufactured in accordance with the permitted methods of processing for this programme, and having the following characteristics: • Heat treated in accordance with pasteurisation conditions highlighted in DPC3 and section 23 of this programme • is made using a process that does not exceed 5 hours and 30 minutes from the addition of the starter culture through to draining whey (e.g. hooping or cheddaring) • Moisture % during shelf life of less than 39% • Salt in moisture not to be less than 4% • Minimum maturation period 30 days (if pasteurised) or 90 days (if thermised) • pH during shelf life of less than 5.6, and this pH is first achieved within 72 hours of the start of manufacture
Limitations	No more than 1,000 litres of milk to be processed per week at the location identified under 2.3 Raw milk must be no older than 24 hours for thermised product and 72 hours for pasteurised product; A lactic acid producing starter culture must be added No chemical, including vinegar, is to be added to reduce the pH No starch or gelatine to be added
Intended consumer	General human consumption
Product safety limits	Refer to the Australia New Zealand Food Standards Code (FSC), Chapter 1 and Chapter 2 General Food Standards. Cheese produced under this programme must also meet the microbiological criteria set out in DPC1, specifically:

	• Salmonella spp.- Not Detected in 25g • *L. monocytogenes* – Not Detected in 25g • Coagulase Positive Staphylococci – no more than 1,000 cfu/g • *E. coli* – no more than 100 cfu/g
Other regulatory requirements	Australia New Zealand Food Standards Code Animal Products (Dairy) Regulations 2005
Labelling	FSC Part 1.2 – Labelling and Other Information Required

Process Description and Procedures (tick one)

[ ] A description of the process for each cheese type manufactured is appended to this programme (refer Appendix One)

[ ] Procedures to be followed through all steps in the manufacturing process are documented and available. These procedures include the handling of all raw materials and packaging as well as the steps that are to be taken to clean, sanitise and maintain the equipment and facilities. The procedures clearly identify the critical parameters to be measured or observed through the cheesemaking process, and for each measurement or observation made the procedure clearly identifies pass/fail criteria.

These procedures are available *in the relevant section below or here (if you choose to create and hold them separately)*:

17. Location

Please identify the location(s) of the cheese manufacture, including all aspects of the operation such as storage of milk, ingredients and packaging; cheese maturation; and final product storage, and the location of services and facilities including those for handling waste. This should be in the form of a map/diagram of the premises where possible.

The location(s) of cheese manufacture are detailed _____(state where attachment can be found)

OR

The location(s) of cheese manufacture are as follows:

18. Design, construction and maintenance of buildings, facilities and equipment

Premises, buildings, facilities, and equipment used in the processing of dairy material or dairy products will be in accordance with the MPI Operational Guideline: *Design and Construction of Dairy Premises and Equipment*. Of particular note:

- all surfaces must be impervious, accessible and cleanable; and
- there must be separation sufficient to prevent cross-contamination between the raw milk storage area, the heat treatment/cheesemaking area, and the maturation/storage room.

Records are kept in the *cheesemaking diary* detailing repairs, maintenance and alterations to premises and equipment.

19. Water

Only potable water or water that has been filtered and treated to eliminate pathogens is to be used in or near the processing environment.

The procedures for farm dairy water quality (Section 8, including 8.1 and 8.2) apply except that the water quality must meet the higher standard below.

Every year the water will be tested, and results retained in the *cheesemaking diary*, to confirm:

i) *E. coli* is absent in 100 mls
ii) (ii) Turbidity does not exceed 1 NTU

Any treatment will be documented, along with routine records to confirm that the water is being treated as intended.

20. Cleaning and Sanitation

Procedures will be documented to ensure effective cleaning and sanitation of the premises, facilities and equipment in order to minimise the contamination of dairy material or dairy product.
Effective sanitation procedures are followed to ensure:

i) management and removal of waste, including whey;
ii) control of pests;
iii) control of pathogenic micro-organisms within the processing environment

These procedures are:

Procedures are in place to ensure that:

i) dairy material and dairy product is not compromised by contamination from services (including coolants, heating media and/or cleaning solutions);
ii) MPI/MAF/NZFSA approved or recognised dairy maintenance compounds are used according to instructions to clean, sanitise and maintain equipment, and
iii) any other chemicals used are safe, suitable for the intended purpose, and will not result in contamination of product, ingredients, or contact surfaces.

These procedures are:

Chemicals, including maintenance compounds and pesticides, will be used according to the label and in such a way that product will not become contaminated.

Records will be kept in the *cheesemaking diary* showing:

i) the chemicals used;
ii) what was cleaned and/or sanitised, when and how;
iii) the name, amount and location of any pesticides used including bait stations; and
iv) evidence of pest activity within the processing environment, and the corrective actions taken.

21. Competency, health and hygiene of personnel

All people within the processing premises, including visitors, will:

i) wear appropriate clothing that protects the processing environment, equipment, and materials from contamination;
ii) maintain personal hygiene; and
iii) behave in a manner that minimises the opportunity for contamination.

All people, including visitors, who are known to be, or suspected of being, infected by or a carrier of a disease or illness of public health concern (including a notifiable infectious disease listed in section A of Part 1 of the Health Act 1956) that might be transmitted through dairy material, dairy product, ingredients or packaging will not be permitted to:

i) work in areas where dairy material or dairy product is processed or packaging handled, if

their presence may result in contamination of dairy product; or

ii) handle any item that may result in contamination of dairy product.

Records will be kept in the *cheesemaking diary* for personnel assisting either without supervision or on a casual/relief basis, and any contractors present during processing.

22. Ingredients, Packaging (coming into contact with cheese) and Traceability

Ingredients and packaging materials will be safe and suitable, i.e. clean, non-toxic, non-contaminating materials.

Only raw material, ingredients, additives and processing aids permitted under the Food Standards Code will be used in cheese manufacture.

Packaging materials will be designed, made, stored, and used in a manner that –

i) maintains the status of the dairy material as suitable for use in processing;
ii) maintains the status of the dairy product as fit for its intended purpose; and
iii) minimises contamination of the dairy material or dairy product.

Records (e.g. purchase receipts) are kept of suppliers of ingredients and packaging materials, including letters of guarantee (where available), along with records of any problems detected and any corrective action taken.

Each make of cheese will be given a unique identifier (such as a batch code or date of manufacture), and the identifier will be evident throughout processing, maturation as well as on final packaging.

A tracing system has been implemented that:

i) ensures the identification of raw milk, ingredients, additives and processing aids used for each make of cheese, as well as any temporary or permanent packaging material are recorded; and
ii) enables the movement of the dairy material, dairy product, and ingredients to be traced throughout processing, both forwards to consignee and backwards to supplier.

23. Heat Treatment

Milk used for cheesemaking under this programme will be either pasteurised or thermised in accordance with the following criteria. Clear heat treatment procedures are documented below (see 23.1 and 23.2), along with identification of the equipment used, including thermometer, so that the person responsible:

i) Understands the heat treatment, how it operates and the hazards managed by the heat treatment;
ii) Effectively controls the heat treatment and monitors temperature and time to ensure that the required, uninterrupted heat treatment is applied; and
iii) Keeps records for each batch of milk so that the heat treatment can be readily verified.

The raw milk is to be filtered immediately prior to heat treatment using cheese cloth or other suitable material, to ensure that no particles exceed 1,000 microns.

23.1 Thermisation

Thermisation under this programme requires:

i) The rapid heating of the raw milk to a temperature of 64.5°C;
ii) Holding the milk at or above 64.5°C for at least 19 seconds *(assumes no homogenisation of product so particle size may be up to 1000 microns (refer DPC3 Appendix 1, section 6))*;
iii) Rapid cooling to the temperature required for cheesemaking, with cheesemaking starting without delay; and
iv) Storing (maturing) the cheese prior to release at a temperature of 10°C or more for greater than 90 days from start of manufacture.

23.2 Pasteurisation

The raw milk must be heat treated according to one of the following methods-

i) The holding method, by which the milk is—
   1) rapidly heated to at least 63°C or greater and held at or above that temperature for at least 30 minutes continuously; then
   2) rapidly cooled to 5°C or less, except situations where the milk will be used immediately in which case the milk must be rapidly cooled to the temperature required for manufacture to commence.

ii) Any of the heat treatment combinations set out in DPC3: Animal Products (Dairy) Approved Criteria for the Manufacturing of Dairy Material and Product, provided that all requirements are met including particle size and solids content. The high-temperature short-time method for milk with a particle size of less than <1000 microns requires milk to be rapidly heated to a temperature of not less than 72.7°C, retained at that temperature for not less than 15 seconds, and then cooled as per 23.2(i)b. above.

In addition, the cheese must be stored (matured) prior to release at a temperature of not less than 10°C for no less than 30 days from start of manufacture.

23.3 Identification of Equipment Used

Text in italics should be amended to reflect your own equipment

We use the following equipment for our heat treatment:

- *Thermometer XXX, calibrated on_____*
- *Batch Pasteuriser*
- *3 x stainless steel pots labelled XXX, YYY and ZZZ*

23.4 Heat Treatment Records

For every batch of milk that is heat treated the following records must be made and retained for 4 years:

i) The date and time of the treatment
ii) The quantity of milk
iii) The temperature applied and the time that it was continuously applied
iv) The periodic measurement of the storage temperature taken from the point within the storage area with the lowest temperature (typically the lowest shelf farthest from the door); and
v) The date that the cheese is released.

For convenience, records could be made on the make sheets associated with each batch.

24. Establish pH Curve

For each type of cheese manufactured under this programme the operator must establish a pH/acid development curve. This requires the operator to undertake an initial study of the process, recording the pH or titratable acidity of raw milk and whey at each point in the process (e.g. starter addition, hourly until cutting, cutting, draining, hooping/cheddaring) as well as the pH of the cheese at 24 or 72 hours, at 7 days, at the end of maturation, and the end of shelf life.

This study is to be repeated 3 times for each cheese type manufactured to provide an indication of minimum process variability. The operator should also consider undertaking the study at additional times during the season because seasonal changes in milk composition will affect the speed with which acid develops.

From the data gathered, the operator is to define criteria for each key process control measure so that a pass/fail decision can be made during routine cheesemaking. A fail would indicate that the process has failed in such a way that one or more of the cheese parameters in section 16 and this section will not be met, for example a slow vat that cannot meet pH target required within time permitted under this programme.

The process control measures and the tolerance limits (pass/fail) that apply are to be monitored as every batch of cheese is processed. These are to be recorded on the In-Process Control Measures Form and the Make Sheet, or equivalent documents used by the cheesemaker.

It is not necessary to take measurements continuously through the process once the pH curve has been established, though the more measurements made the more likely the cheesemaker will understand the potential impact of day to day and seasonal variations.

25. Monitoring the Cheesemaking Process

In-process testing and observations will be used to confirm that the process is working as intended and that each make yields conforming cheese. For each batch or make of cheese the operator must monitor and record all relevant details. These will include:

- who has made the measurement or observation (this person must understand the process, the purpose of the measurement, and have appropriate authority to initiate corrective action)
- raw milk (quantity, date and time of use) along with start milk temperature and the pH or titratable acidity immediately after adding starter;
- processing aids and other ingredients (quantity and batch identity);
- times and temperatures applied through the process and maturation;
- pH at key points through the process. Alternatively titratable acidity may be used on milk and whey prior to pressing (refer to *Establishing the pH curve* above);
- any other process control measures required to confirm that the cheese will conform the required compositional and food safety parameters, for example brine strength;
- visual observations.

The make sheet provided in the cheesemaking diary provides an example of the details to be recorded.

26. Final Product Testing

Procedures for obtaining, handling and dispatch of samples are as follows and ensure sample integrity is maintained and any results are reliable.

Sampling Frequency:

Each season at least three samples are taken of the final product at the end of the minimum maturation period (30 or 90 days depending on the heat treatment applied) for compositional analysis. One of the three samples is to be taken of cheese made in the first two weeks of manufacture for the season, another taken in the middle of the anticipated manufacturing season, and the last sample taken of cheese manufactured in the last two weeks. However no more than one sample is required per calendar month.

Testing:

The compositional tests required are percentage moisture, percentage fat and percentage salt, and pH.

If any test identifies that the cheese does not comply with the minimum requirements of this programme then

the verifier must be informed immediately and all cheese within the cheesemakers control must be withdrawn from sale and managed as non-conforming product. Pathogen testing may be required to confirm that it meets product safety limits.

The verifier may require compositional and/or microbiological testing if unfavourable results are obtained.

Due to the intrinsic characteristics of the cheeses permitted to be manufactured under this programme there is no requirement to undertake microbiological testing of the cheese unless requested to do so by the programme verifier, for example when product is suspected to be non-conforming or when there has been a failure to apply this programme. Testing of the water supply for *E.coli* is required as per section 19.

Laboratories and Test Methods: dairy product is to be analysed in a recognised dairy laboratory using test methods that are within the scope of the laboratories accreditation and acceptable to MPI. Water must be tested in an ISO17025 accredited laboratory using test methods that are within the scope of the laboratories accreditation.

Records: records will be kept of all samples submitted for testing along with the test reports.

27. Periodic Checks

The cheesemaker will periodically inspect equipment and facilities and review monitoring results to confirm the on-going suitability of this programme to ensure that the cheese manufactured is safe. Any defects found are to be fixed and a record kept of the issue and remedial action taken.

28. Non-conforming product, exception events and recall

Regulation 5 of the Animal Products (Dairy) Regulations 2005 and the Animal Products (Disposal of Non-conforming Dairy Material or Dairy Product) Notice 2010 No.2 apply as if the processing were covered by a RMP.

The occurrence of a critical non-compliance, including failure to comply with this programme or any other regulatory requirements, must be reported to the recognised verifier within 24 hours.

For this section “non-conforming” means dairy product that is suspected or known not to meet regulatory requirements or not to have been processed in accordance with regulatory requirements at any point.

A procedure is in place to ensure that any dairy product that is nonconforming is identified, detained, managed in a way that avoids other dairy material or dairy product becoming affected, and the recognised verifier notified without delay. This procedure is as follows:

For recall procedures, refer to "Recall Guidance Material" available at http://www.foodsafety.govt.nz

Records are kept to show:

i) the identification of all potentially affected material or products;
ii) the nature and extent of the problem;
iii) the location of the potentially affected products in the distribution chain, or any disposal specifically provided for under the Animal Products (Disposal of Non-conforming Dairy Material or Dairy Product) Notice 2010 No.2 ; and
iv) all events, actions taken and associated information such as communications with the verifier.

29. Records, Reporting and Notifications

All records required to be made under this Programme may be either hard copy or electronic, but must be clear, legible, stored in a manner that protects from deterioration, and retrievable on request.

Records will be retained for 4 years.

Reporting to Programme Verification Agency

Where an exception report is required to be raised (due to a failure to adhere to this Programme or due to the raw milk supplied for further processing not being fit for purpose),the exception will be reported to the Recognised Verification Agency (MPI) within one working day. Milk that is withheld at the farm and not supplied for further processing is to be recorded but does not require an exception report to be raised or notified.

Routine reporting

Routine reporting to the Recognised Verification Agency (MPI) will be in the format and frequency agreed with the Agency *(once agreement is reached this statement should be modified to state the agreement)*.

Notifications to Milk Recipients

Any recipient of raw milk that is determined to be non-conforming or suspected to be non-conforming must be advised immediately.

30. External Verification

The frequency and nature of verification audit/farm dairy assessment will be in accordance with that notified by the Director General or the Recognised Verification Agency. The Verification Agency may accept a competent farm dairy assessor completing part or all of the on-farm aspect of the verification audit when this is done under the instruction of the verification agency.

Freedom and access to carry out verification of this programme

Under this programme the contracted Recognised Verification Agency is granted the freedom and access necessary to allow them to carry out assessment and verification of the farm dairy activities covered by this programme including:

- access to premises and facilities covered by the programme;
- access to observe the milking animals;
- access to all documentation, records and information relating to the Programme including the farm dairy processing activities, milking animals, and associated things such as feed, effluent management and stock water;
- freedom to examine and open all things necessary and sample and/or test;
- freedom to identify or mark milk, equipment, containers, packages, chemicals, feed or associated things.

Where there may be significant risk to the fitness for the intended purpose or suitability for further processing, authority is given to the Recognised Verification Agency to :

- detain dairy material or other relevant things in the event of non-compliance with this programme;
- order the retention of materials including milk, equipment, chemicals, feed, water and related products pending;
- testing, or decisions on conformance, compliance and/or disposal;
- intervene and direct a temporary interruption of farm dairy activities until the cause of the risk has been remedied.

31. Programme Operator Declarations

I confirm that:

[ ] the statements made in this Programme have been read and confirmed.

[ ] I milk no more than 6 cows or 10 Buffalo, or 24 goats and/or sheep, and all these animals are owned or leased by me.

[ ] the raw milk only comes from animals I own and the milk is intended for further processing with heat treatment.

[ ] the raw milk will only be used for the manufacture of products intended for sale or consumption in New Zealand.

[ ] all facilities and equipment necessary to implement this Programme are available and ready to operate.

[ ] this Programme, including all supporting systems, has been authorised by me.

[ ] this Programme will be implemented as written, including the requirements set out in NZCP1: *Code of Practice for the Design and Operation of Farm Dairies* that apply to my operation.

[ ] no milk from another farm is to be introduced, added to the farm bulk milk tank or otherwise supplied.

[ ] that the contracted recognised verification agency is granted the necessary freedom and access identified under section 30.

[ ] each page of this programme has been initialled and dated, and a dated and signed copy retained for my use.

I declare that:

a) I am authorised to make this application as the Operator of the Farm Dairy or person with legal authority to act on behalf of the Farm Dairy Operator; and
b) the information supplied in this application is truthful and accurate to the best of my knowledge; and
c) neither I nor any directors, partners or managers of the business concerned have been convicted, whether in New Zealand or overseas, of any offence relating to fraud or dishonesty, or relating to management, control or business activities in respect of businesses of a kind (whether in New Zealand or elsewhere) that are regulated under the Animal Products Act 1999; and
d) the operator is a New Zealand resident within the meaning of section OE1 or section OE2 of the Income Tax Act 1994.

To be signed by Farm Dairy Operator or person with legal authority to act on behalf of the Farm Dairy Operator.

Signature: _____ **Date:** / /

Name: _____ **Designation:** _____

6 Appendix One

6.1 Process Description

The following process flow diagram illustrates the key steps based on a generic process. A process description is to be completed for each cheese to be manufactured – a template is provided on the following page.

Process Description Example – Generic Cheese

Inputs [1]	Process steps	Outputs [2]
Receipt of raw milk and ingredients →	1. Receiving	
	↓	
	2. Storage of ingredients and raw milk	
	↓	
	3. Filtration of raw milk	→ Foreign matter to waste
	↓	
	4. Separation	→ Cream and Skim milk
	↓	
	5. Standardisation	→ Standardised milk to desired fat content
	↓	
	6. Heat Treatment (Pasteurisation or thermisation permitted in the case of hard cheese)	
	↓	
LAB starter (fresh, commercial)→	7. Starter addition	
	↓	
Chymosin or rennet →	8. Coagulation	
	↓	
	9. Curd Cutting	
	↓	
Hot water →	10. Cooking	
	↓	
	11. Draining	→ Whey removed from immediate environment (not for human consumption)
	↓	

	12. Filling of moulds	
	↓	
Salt →	13. Salting	
	↓	
	14. Ripening	
	↓	
Packaging →	15. Packaging or Waxing	
	↓	
Labels →	16. Labelling	
	↓	
	17. Chilled Storage	→ Packaged cheese for retail sale

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

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

Process Description – Cheese: _____

Inputs [1]	Process steps	Outputs [2]

6.2 Farm Dairy Diary

Milking Record

Milking date	Milking time	Quantity	Milk temp at collection	Cooling Method				Date milk used	Sensory No odour No taint No discolouration No spoilage No fat damage No visual sediment No foreign matter	Milk used for
				(i)	(ii)		(iii)			
				Milk used immediately	Time milk reached 18°C	Milk temp at 3hrs after milking	Milk temp at 2hrs after milking			
2/3/12	*6am*	*10L*	*27°C*	*No*	*-*	*-*	*5°C*	*3/3/12*	*Fail (FM)*	*Own use (not for sale)*
2/3/12	*7am*	*20L*	*26°C*	*No*	*6.15am*	*7°C*	*-*	*4/3/12*	*Pass*	*Cheesemaking*
2/3/12	*8am*	*30L*	*27°C*	*Yes*	*-*	*-*	*-*	*2/3/12*	*Pass*	*Cheesemaking*

Milking date	Milking time	Quantity	Milk temp at collection	Cooling Method				Date milk used	Sensory No odour No taint No discolouration No spoilage No fat damage No visual sediment No foreign matter	Milk used for
				(i)	(ii)		(iii)			
				Milk used immediately	Time milk reached 18°C	Milk temp at 3hrs after milking	Milk temp at 2hrs after milking			

Mastitis Check Records

Date	Cow (name or tag)	Time of milking	Teat quarter checked	Tick (if ok)	Comments and action taken

Records for vet visits and withheld milk

Date	Cow	Reason for Vet visit (and what he said) or for withholding milk	Medicines used	Does the milk need to be withheld? (if yes, for how long)	What happened to this milk?
1/2/2010	*Betty*	*Infected cut on Betty's leg.* *Needs treatment to resolve, resulting milk will be OK for (non-milking) animal feed.*	*Antibiotics - erythromycin*	*Yes – for 10 days after her last dose (until 1/3/2010)*	*This milk was fed to our neighbours pigs*
1/4/2010	*Kylie*	*New cow purchased*	*Nil*	*Yes – until Tb test results received (14/4/2010)*	*This milk was discarded (down drain).*

Records for medicines and chemicals

Name of Product	Used for	Date obtained	Expiry date	Comments *(note here when/how product is discarded, and any other notes or comments about the use of the product)*

Milk Supply Monitoring

APC every two months less than 100,000 cfu/ml

Total coliforms every two months less than 100 cfu/ml

Date of test	APC	Total coliforms	Comments/corrective action

Records of contacting my verifier

Date	Time	Reason	Comments/corrective action taken
5/3/2010	4 pm	The cooling system on our milk vat was not working	We used the milk as soon as we found out – we made heat treated cheese with it (after checking sensory properties).

6.3 Cheesemaking Diary

Repairs and Maintenance Schedule

Planned repairs/maintenance **(use this sheet to note when regular maintenance or non-critical repairs are planned. Items should be added to the list as soon as it is identified that the maintenance/repair will be needed)**			
Equipment / Item and description of maintenance activity	**Planned to occur (date and/or frequency (e.g. daily, weekly, fortnightly, monthly, six monthly, yearly etc))**	**Contractor/Person responsible – contact details**	**Comments**

Urgent/unplanned repairs/maintenance **(use this sheet to note when maintenance or critical repairs are required).)**			
Equipment / Item and description of maintenance activity	**Date identified and date completed**	**Contractor/Person responsible – contact details**	**Comments**

Cleaning schedule

Items and areas to be cleaned	Frequency of cleaning [tick]					Method of cleaning (Including dilution of any chemicals) & Who is responsible
	After use	Every shift	Daily	Weekly	Other	

Water Treatment & Monitoring

Date	Water treatment undertaken	Reasons for treatment / Comments / corrective action

Water testing to confirm:

i) *E. coli* is absent in 100 mls
ii) (ii) Turbidity does not exceed 1 NTU

Date of test	*E. coli*	Turbidity	Comments/corrective action

In Process Control Measures

Cheese: _____

Point in the Process	Measurement [1]	Tolerance Limit (minimum and/or maximum)
Immediately following addition of starter	pH / acidity	pH 6.6-6.8 or < 0.165% TA
cheese at 1 day / 1 week	pH	< 5.6
End of maturation	pH	< 5.6

[1] For example pH or acidity.

Make Sheet

Cheesemaker : _____ Cheese Type: _____

Date & Batch ID: _____ Milk (litres):_____

Starter – type – batch – quantity		Rennet – type – batch – quantity	
Salt (grams) (if applicable)		Brine Strength (if applicable)	
Other Ingredients (type and weight)			

Production Record

Process Step	Time	Temp ºC	pH or acidity	Comments
Pasteurisation/Thermisation – - start time (note temperature & holding time under comments)			n/a	
Starter added				
Rennet added			n/a	
Cheese to maturing room		n/a		Maturation Room Temp ºC In: Out:
Packing/release – - record date & confirm batch ID				

Food Suppliers

Food can only be purchased from people or businesses that are registered food businesses, or who can legally sell food without registration.

Registered food supplier	Registered food supplier
Business name	Business name
Contact Person:	Contact Person:
Phone:	Phone:
Fax:	Fax:
Address:	Address:
Lead time for placing an order (e.g. Mon for Wed)	Lead time for placing an order (e.g. Mon for Wed)
Delivery day(s): Mon Tue Wed Thu Fri Sat Sun	Delivery day(s): Mon Tue Wed Thu Fri Sat Sun
Goods supplied	Goods supplied

Comments

Comments

Registered food supplier

Business name

Contact Person:

Phone:

Fax:

Address:

Lead time for placing an order

(e.g. Mon for Wed)

Registered food supplier

Business name

Contact Person:

Phone:

Fax:

Address:

Lead time for placing an order

(e.g. Mon for Wed)

Delivery day(s):

Mon Tue Wed Thu Fri Sat Sun

Goods supplied

Comments

Delivery day(s):

Mon Tue Wed Thu Fri Sat Sun

Goods supplied

Comments

Cheese Composition Monitoring

3 times per year (early season, mid season, late season)

The compositional tests required are percentage moisture, fat and salt, and pH

Date of test	pH	Fat	Moisture	Salt	Comments/corrective action

Sickness

Name	Symptoms (state if episode of vomiting at work)	Date of symptom onset	Date Notified	Action taken	Faecal result (if any)	Date exclude from work	Date returned to work

Records of contacting my verifier

Date	Time	Reason	Comments/corrective action taken