

MILK TANKER OPERATOR

INFORMATION KIT





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MILK

Raw milk is a food which is processed for human consumption and must be treated as such. The dairy farmer, as required by Australian Food Standards, takes great care to ensure it is obtained from healthy cows and remains free from colostrum and other contaminants.

Along with the dairy farmer, the tanker operator's role is critical in ensuring the raw product is delivered fresh and contaminant free to the processing plant.

Fresh milk typically contains:

- water – 87.3%
- fat – 3.7%
- protein – 3.5%
- lactose – 4.8%
- vitamins/minerals – 0.7%.

Milk also contains micro-organisms that are able to cause disease, food poisoning and food spoilage if their numbers are not kept under control by the use of best practice food handling, food storage and food processing techniques.

Those micro-organisms that cause us harm are called pathogens.

Some common pathogens known to the dairy industry are:

- *Listeria monocytogenes*
- *Staphylococcus aureus*
- *Salmonella typhi*, typhimurium
- *Mycobacterium tuberculosis*
- *Escherichia coli*.

These pathogens are transmitted to milk or milk products from people, animals, unhealthy cows, and poor hygiene of personnel and equipment.

Milk is a highly perishable food. The delicate flavour, keeping quality and nutritional value are easily destroyed. If milk is of inferior quality, i.e. it has a defect, the products manufactured from it will also be inferior, so it is important to take great care to prevent milk from becoming contaminated. The quality of the milk may only be maintained by extremely good hygiene practices and keeping the milk as cold as possible.

Vitamins/minerals **0.7%**

Lactose **4.8%**

Protein **3.5%**

Fat **3.7%**



Water **87.3%**

MILK TANKER OPERATOR ROLE

EFFECT OF STORAGE TEMPERATURE ON MILK

Milk stored at 37°C

This temperature provides the ideal conditions for gas producing coliforms and pathogens. At this temperature milk rapidly becomes acid and then curdles. Milk leaves the udder of a cow at 37°C. Milk must be cooled to 5°C or less within 3.5 hours from the commencement of milking and kept within the range of 1°C to 5°C before collection to minimise microbial spoilage and downgrading of product.

Milk stored at 20°C

This temperature favours the growth of natural souring bacteria which rapidly outgrow the majority of other types present. The milk tastes off in a matter of hours and curdles in about 24 hours. As a rule, in clean milk a firm smooth curd develops with very few gas bubbles.

Milk stored at 10°C

Bacterial growth is slowed only very slightly at this temperature. Various types of protein splitting organisms, as well as the souring bacteria, begin to multiply. Gradual souring and off flavours generally develop.

Milk stored at 4°C

There is initially very little increase in the bacterial flora, however slow deterioration in the milk quality will cause off flavours as storage time increases. This can sometimes take 4 to 5 days before flavour deterioration is noticeable. This temperature is regarded as being the maximum for storage of milk for the liquid market.

Milk stored at 1°C to 2°C

This is the ideal temperature for storage of milk at all stages of production and manufacture, that is, from farm to finished product, deterioration is almost stopped.

The importance of storage time and temperature on the keeping quality of farm refrigerated milk cannot be over emphasised.



The tanker operator is the vital link in the dairy food chain between the supplier and the processor. The tanker operator has an important responsibility in maintaining a good working relationship between the processor and the supplier. It is important that the operator not only gives a good impression, but delivers an excellent service.

Suppliers and the public are keen to see tanker operators maintain a high standard in the following areas:

- dress – neat clean and compliant with OH&S requirements
- milk collection methods – hygienic
- tankers external surfaces clean at all times, (where practical)
- attitude – friendly and helpful
- no smoking, eating or drinking, other than water while on farm.

The tanker operator will have regular contact with the supplier/employees. Only necessary information relating to milk collection and the processor should be provided. Never make quotations or statements on behalf of the dairy processor unless otherwise directed.

When driving on farm, a tanker operator should drive to the conditions and should always remain alert and aware the situation. They should be aware of the fact that animals, children and other people are likely to be around the farm and the dairy. The tanker operator should respect the situation where the dairy or tanker access is near a house and try to restrict dust, noise (do not use engine brakes) and avoid the use of lights on high beam.

When performing duties around the dairy, tanker operators should act in a manner that will not detract from the standards of the premises. They should restrict, as much as possible, any spillage of milk or carrying mud into the milk room. The tanker operator must make themselves aware of the requirements of the vat room as throughout a year there will be various changes and requirements to adhere to.

Tanker operators need skills and knowledge in:

- communication
- safe driving
- transport regulations
- dairy and health regulations relating to the collection of milk
- hygiene, cleaning and sanitation methods
- milk sampling and storage
- testing equipment (thermometers)
- operations of equipment for both tanker and processor
- record keeping/documentation.

Any complaints or requests by suppliers to tanker operators should be noted and referred to the tanker operators direct supervisor or manager.

MILK TANKER OPERATOR DUTIES

FARM MILK COLLECTION PROCESS

Milk tanker operator duties include:

- senses testing and collection of quality milk
- accurately measuring milk volume and temperature
- recording milk volume (if applicable)
- recording temperature results (if applicable)
- assessment of any milk over 5°C against the milk cooling curve graph (see notes)
- ensuring that farm milk vats are rinsed free of milk residues following complete emptying of milk from the vat. If the correct facilities for cleaning the vat are not available – contact your direct supervisor or manager
- collecting and caring for milk samples
- protecting the milk during transport, from all sources of contamination such as direct sunlight, heat, dirt, animals and insects
- awareness of load security
- noticing potential problems and drawing them to the attention of the right people before they become serious.
- reporting problems with any of the above to your supervisor.

BEFORE LEAVING THE PROCESSOR

The tanker

Before commencing the run, the milk tanker operator is required to check the following:

- all fittings and attachments are cleaned and sanitised
- all pipes, fittings, milk pump and attachments are assembled, made secure and are in a satisfactory condition
- lids are closed and breather valves have been fitted (if applicable)
- hose is blanked off
- sanitiser solution (made up daily), if applicable
- sampler and housing are cleaned and sanitised and checked for satisfactory condition

General items

Check that you have the following, where necessary:

Safety

Tanker operators are exposed to a number of risks on farm and some that could cause injury. Their work sites extend to every farm they visit.

Tanker operators are to report any hazards through the hazard reporting process used by their employer. All accidents must be reported immediately to your supervisor.

Communication

Due to the highly perishable nature of dairy liquids, it is important to communicate any potential delays that impact the ability to meet the specified transit times. These delays should be reported to your supervisor.

Delays are anything that prevents you from meeting your expected arrival time, these could be breakdowns, road closures, unplanned rest breaks or natural disasters.

- hand sanitising gel (non-perfumed) for use where hand washing facilities are not available
- a system that will keep milk samples cool: e.g. Ice and water slurry (1:1 ice, water) and racks to store all milk samples during transit back to the processor
- adequate supply of sample coding labels
- sample box (Esky), bottles for chemical (drip) and microbiological samples (dip) as well as spare bottles
- paper towel to wipe dipstick (where applicable) and hands
- a calibrated thermometer to check farm milk vat temperatures
- a full awareness of the suppliers to be collected, samples to be taken, documents to be completed and delivered as well as any other required information
- processor contact details and procedures manuals

The farm milk collection process is a vital aspect of the milk tanker operator's role to ensure milk is collected hygienically.

The following processes outline in detail factors that should be followed to ensure appropriate collection.

1 Wash hands

Hands must be washed and dried according to procedure.

Another option is hand sanitiser gel if hand washing is not available.

2 Agitate milk

Milk must be agitated (both vats and silos) thoroughly to ensure adequate mixing before any sample is taken. Proper mixing ensures that the sample is truly representative of the bulk milk in the tank. Milk should be agitated until it is homogeneous and only then can a representative sample be taken for compositional and bacteriological tests.

Silos must be agitated at the highest speed setting.

Vats must be agitated until it is clearly visible that the milk is properly mixed. The time required varies with vat type, agitator speed and milk level in the vat. Two minutes is usually the minimum recommended. It is just as important to not over-agitate the milk.

The importance of agitation

Without adequate agitation, a sample taken at the top of the vat will be different to a sample taken at the bottom of the vat. This is because milk fat naturally rises due to its specific gravity.

Insufficient agitation can lead to a reduction in farmer payments.

3 The senses test

Grading is the most critical operation in the collection of milk (refer to notes). By using a combination of the senses of sight and smell, the operator must make an instant decision as to whether the milk is suitable to be picked up.

The milk should be free of foreign matter, taints, odours or any other defects inconsistent with acceptable grade milk.

IMPORTANT NOTE LEAKING VATS

If, when the protective 'blank' is removed from the vat outlet, there is any sign of milk in the outlet pipe, it means that the vat outlet valve has probably leaked. Such residues are to be rinsed out, preferably using water and sanitiser. Milk between a leaky valve and the protective 'blank' is not refrigerated and will contain large numbers of bacteria. A leaky valve should be drawn to the farmer's attention immediately. Similar advice is necessary if the end of the outlet is not covered, or milk is present in the sight tube.

The result of the grading of the milk, together with its volume and temperature, must be recorded in the schedule provided by the processor and signed by the milk tanker operator (or as directed by processor).

4 Connect hose

While waiting for milk to be agitated, connect hose to the outlet of the farm milk tank. Care should be taken to prevent contamination of both the milk hose and the hose cap. Do not open the vat outlet at this stage.

5 Read and record temperature of milk in the vat

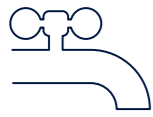
Procedure

After agitating the milk for two minutes, note the temperature reading on the farm tank thermometer. An independent temperature reading should be made using a hand-held thermometer. (This thermometer should be regularly calibrated against a standard thermometer). The probe of the thermometer must be sanitised by dipping into a sanitising solution prior to use. **Do not use glass thermometers.** Some companies use an in-line thermometer to measure the temperature.

If the difference between the two thermometers is greater than 1°C, record and report it to the appropriate personnel.

Record the temperatures in the appropriate records.

If the milk is above 5°C, the tanker operator must follow individual company policy requirements which may refer to the use of the early milk collection index (EMCI) for risk assessment (refer to note 4).

**Step 1**

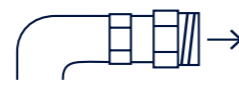
Wash hands

**Step 2**

Agitate milk

**Step 3**

Senses test

**Step 4**

Connect hose

**Step 5**

Read and record vat temperature

**Step 6**

Complete paperwork

**Step 7**

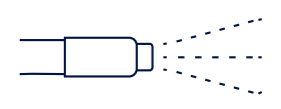
Milk sampling procedures

**Step 8**

Disconnect hose, switch off pump

**Step 9**

Check tank floor for sediment: record

**Step 10**

Rinse milk tank

Multiple bulk milk tanks

Use the same vat number for both volume and temperature measurements to avoid confusion.

Allocate a number to each bulk milk tank and record the bulk milk tank number in the tanker log sheet or docket i.e.

Vat 1 – 3°C

Vat 2 – 4°C

6 Completion of paperwork/data entry for flow meters

At each milk collection it is necessary to complete the paperwork requirements of the company purchasing the milk. This information is required for compliance with legal requirements and sometimes, export regulation.

Information that should be included:

- name (number of supplier)
- date and time of collection
- identification letter or number of each farm milk tank where milk is received from more than one tank
- quantity of milk
- temperature of milk
- grade of milk (if the milk is rejected for unsatisfactory quality, detail of the defect must be recorded)
- identification of the tanker operator
- remarks: include such facts as thermometer inaccuracy, excess sediment and any other abnormalities such as freezing of milk.

7 Milk sampling procedures

Milk price is based on the quantity and quality of milk produced. If samples are not correctly taken, labelled or stored, then financial loss may be suffered by the farmer.

It is the responsibility of the milk tanker operator to take samples that are truly representative of the milk in the farm vat.

Sampling procedures – DRIP

Drip samples may be used for compositional or microbiological (where approved) testing of the milk.

Drip sampling devices can be:

- built into the tanker collection system with valves for waste return and sampling, or
- involve manual collection in a jug and sub sampling from the jug. (For DIP sampling, please refer to note 3.)

Procedure

- 1 The milk must be adequately agitated (minimum two minutes) in the vat(s) before pumping commences and the flow rate of the system must be set so that sampling occurs over the total time of pumping out. This may be electronically programmed or manually set by the operator.
- 2 Open the vat outlet and start pump motor.
- 3 The first few seconds of the sample are run into the tanker to remove any water that may remain in the hose after washing and to remove milk from the previous farm.
- 4 The drip sampler must be flowing at a constant rate at all times while the milk vat is being emptied.
- 5 When the vat is empty, pour contents of the sample vessel into the correctly labelled sample containers. The sample container is to be filled to 80% capacity and stoppered securely, using aseptic sampling technique.
- 6 Place in a cooling system to maintain sample temperature at less than 5.0°C until delivered to the processor.
- 7 Discard the milk in the sample jug and store jug upside down until it is required at the next farm.
- 8 The flow control on the sampling tube is adjustable to ensure that the sample vessel does not overflow during the emptying of the milk vat, to ensure that the sample is representative of all the milk in the vat.
- 9 Milk is pumped out of the drip-sampling chamber into the tanker by the use of the in line drain tap or air purge.

TAKE CARE!

If the milk flow is too fast at the commencement of pumping it **must not** be altered. The sample vessel must be allowed to overflow into a clean bucket. At the end of pumping, the entire sample must be mixed in the bucket before sub-sampling (not for microbiological samples). (In the event of drip sampler failure use DIP sample as described in note 3.)

Important information about DRIP sampling

- The sample must be taken continuously during the pumping operation.
- The volume of a sample can only be adjusted by changing the sampling orifice size. Do not change sampling orifice size once pumping of the milk has commenced.
- The sample line between the exit point in device and the sample collection container should be free and open at all times during the transfer operation.
- The flow from the sampling device to the sample container should be by gravity, without siphon effect.
- The hose from the farm tank to the tanker must be emptied after each pickup.
- In cases where the volume in the vat is small, i.e. less than 400 litres, composite samples may need to be taken by the dip method (refer to notes) in order to obtain sufficient milk for testing.

8 Disconnect hose and switch off pump

When all milk is pumped from the farm milk tank:

- Disconnect hose and seal with the protective cap, if required, and return the hose to its place on the tanker. This should be done without delay to avoid damage to the impeller by running the pump dry.
- Switch pump off.

This must be done before the farm milk tank is rinsed to prevent adulteration of the milk with rinse water.

9 Check floor of tank for sediment and record

Excess sediment on the floor of the tank will affect milk quality. This advice is a service to the farmer to warn of possible malfunction of milk filtration – excess sediment should be recorded on tanker log sheet and your supervisor notified.

10 Rinse farm milk tank (where appropriate)

- Rinse the bulk milk tank with water to remove all traces of milk residues (inside and out).
- Rinse any spilt milk or mud from the milkroom and put the hose back in its place.
- Ensure that the agitator and refrigeration system is off and that the vat lids are closed.
- Start the automatic vat wash, if part of wash system.
- Ensure required records are left with the farmer.
- Close the milkroom door when leaving.
- Drive to conditions from the supplier's property.

Milk price is based on the quantity and quality of milk produced. If samples are not correctly taken, labelled or stored, then financial loss may be suffered by the farmer.



ARRIVAL AT THE PROCESSOR

FARM MILK COLLECTION PROCESS SUMMARY

| | |
|----|--|
| 01 | Park tanker Arrive at the dairy as close as necessary for hose to reach |
| 02 | Switch off agitator Perform senses test, check tank level, agitate milk for 2 minutes and note temperature |
| 03 | Attach hose Attach the tanker hose to the vat |
| 04 | Label samples Prepare and accurately label sample bottles |
| 05 | Take samples Take samples and immediately place in ice box |
| 06 | Open the valve and pump Open the valve on the vat outlet and start pumping |
| 07 | Disconnect hose When the vat is empty, disconnect |
| 08 | Rinse down Hose residual milk from the vat |
| 09 | Paperwork and switch off Leave any paperwork, ensure the agitator, refrigeration and lights are off |
| 10 | Commence CIP If appropriate, commence CIP |

This will vary between processors, and individual processor procedures are to be followed.

Unloading the milk from the tanker

Appropriate personnel must be notified as soon as possible of any irregularity which occurs during the collection.

- Samples to be transferred to designated site storage facilities immediately on arrival at the sample destination site
- Provide samples to processor or store in refrigeration as per processor instructions
- Ensure all test results are clear (including representative load sample for antibiotic testing) and milk is safe to unload. Unload tanker in accordance with processor procedures.
- Enter required details in the logbook i.e. volume of milk, tanker number, round number, dates, times, problems experienced.

Milk transferred from farm truck to linehaul truck

All milk transferred from a farm collection truck to any linehaul truck or other unit should follow the processor's procedure. Generally:

- tanker samples to be taken from all farm trucks per the normal procedure
- tanker samples to be taken from the linehaul tanker after the transfer has been completed
- linehaul tankers are to take a further set of samples upon arrival at the receiving processor per the normal unloading procedures at the receiving processor.

Spills

It is the responsibility of the milk tanker operator to make every possible effort to make sure a milk spill does not occur. It is also the responsibility of the tanker operator to immediately notify their supervisor if a milk spill of any size occurs. First action for all spills is to immediately stop the source of the spill if safe to do so.

Spills on farm

Contact your supervisor and supply the following details:

- farm identification
- estimated size of the spill
- location of the spill
- possible cause of the spill.

Do not attempt to clean up the spill unless instructed.

Do not contact the supplier directly unless instructed.

Spills at depots/factories

Contact the site receivables person immediately.

Contact your supervisor with details of the spill.

Spills whilst in transit

In case of emergency, call 000 and contact your supervisor with details of the spill.

Cleaning, sanitising and maintenance of tankers

The aim is to remove milk residues and other soiling matter which may provide food and protection for bacteria.

The most satisfactory method of cleaning is with the use of built in spray cleaning equipment (cleaning in place or CIP) which reduces cleaning time, lowers detergent costs and eliminates surface scratching.

The tanker must be cleaned, sanitised and drained each day according to company procedure.

General cleaning procedures include

- parking the tanker in the correct area
- ensuring manholes are open by raising lids, leaning locking assemblies against the manhole rims and resting the lids on them.

The usual washing cycle consists of the following steps (specific company procedures to be followed):

- 1 **pre-rinse** with clean cold water to remove all traces of milk. It should be done as soon as possible to prevent milk drying on. The first rinse is just as important as the main wash; **all** pipelines must be included.
- 2 **a hot detergent wash** using a caustic soda-based product
- 3 **a second rinse** with water to remove all traces of detergent
- 4 **a sanitising rinse** using a chemical sanitiser.

CAUTION!

When hot solutions are sprayed into the tank, expansion of air and/or condensation of steam will occur. Unless rapid escape or intake of air can take place, the tanker will be damaged; a slight vacuum is all that is required to collapse the tank.

Final inspection of the tanker

A visual check of the internal surfaces of the tanker should be made to ensure that the cleaning processes have been effective. The results of tanker inspections are normally documented.

To examine the tanker more thoroughly, it may be necessary to get inside and examine all surfaces with the aid of a bright light or UV light. **If this is required, it may only be undertaken by trained and approved persons nominated by the company.**

A visual check of the external surfaces of the tanker should be made to ensure that the cleaning processes have been effective.

Regular inspections include

(May only be undertaken by trained and approved persons)

- surfaces surrounding the manhole entry
- spray balls (they should be removed, examined and cleaned to remove foreign material that could cause blockages)
- internal valves where fitted
- manholes, rubber gaskets, pipe joints, relief valves, pumps, hoses
- inside the rear boot/fittings and pipe connections (dustproof compartment)
- sampling device/jug or bucket
- the undercarriage
- surfaces around the outlet
- anchorage for the collection hose.

Areas that require close examination for cracks include:

- all sections of baffle sheeting
- all baffle stays
- sections of internal sheeting around baffle stays
- around all outlets, especially outlets that support heavy valves
- bleed holes, there should be one under the rear or each compartment. Any milk drips indicate the tanker is cracked
- internal bulkheads between tank compartments; these can crack where flexing is likely to occur.

Any 'off' smells are an indication of problems.

All fittings and pipe connections in the rear compartment should be completely dismantled, cleaned and examined for soundness. Any item showing wear or deterioration, should be replaced e.g. rubberware and milk hoses.

COMPANY INSTRUCTIONS TO MILK TANKER OPERATORS

Regardless of the general instructions given in this information, it must be understood that if a company issues instructions which differ from these notes, the company instructions are what must be obeyed. This does not mean that either is wrong; there are many ways of achieving the end result.

NOTE 1 SENSES GRADING OF FARM MILK

All milk must be graded by the senses test before it is picked up by the tanker operator for delivery to the processor. The tanker operator must be able to decide by the milk appearance and smell whether the milk is clean, fresh and free from taints, odours, colostrum and foreign matter.

Sight and smell are the most important factors in grading milk. The sense of taste plays a relatively insignificant role in grading milk and tanker operators must not taste raw milk.

Grades of milk

The grades of milk are:

Accept

Milk that smells fresh and is free from undesirable taints, such as colostrum and foreign matter and meets temperature requirements.

Reject

Milk that is not free from serious taints, colostrum or foreign matter or outside of specification for temperature.

Senses testing – smell

Lift the lid of the vat (if it has one), or take a sample of milk and smell the milk for signs of taints or the presence of any objectionable odours.

To sense test a silo vat where there is no easy access point, take a sample from the outlet after ensuring that it is clean, into a clean 1 litre container.

Odours are most pungent when first lifting the vat lid. Be cautious of other odours in the dairy masking the smell of the milk being collected. Milk tanker operators should be wary if the lid of the vat is open when they arrive.

Senses testing – sight

Visually inspect the milk for:

- signs of colostrum, which is indicated by the presence of a dark rich butter colour, possibly accompanied by flecks of blood
- signs of mastitis, which is indicated by the presence of blood or small curd-like particles
- signs of foreign matter such as insects, rodents, birds etc.
- signs of blood, indicated by a pink colour
- presence of churned fat.

If the colour is doubtful:

- turn the agitator off, wait at least five minutes to allow the milk to settle, and then look for any dark flecks or spots that may come to the surface e.g. blood clots
- if necessary, skim off a small amount of milk in a white plastic cup and inspect it under the best light available, preferably daylight. The sample may also be compared with a previously collected sample.

NOTE 2 PROCEDURE FOR MILK SAMPLING

If samples are not taken correctly, labelled correctly or stored correctly, there may be a financial loss suffered by the farmer/supplier.

Good sample integrity is vital and it the tanker operator's responsibility to take a good representative sample and get it back to the laboratory in the best possible condition.

Raw milk sample bottles

Tanker operators are to ensure the following raw milk samples are taken at every collection. These samples are used to determine the quality of milk and for farmer payments. It is imperative that the processor receive these samples. Different coloured sample bottle caps are often used to assist in the ease of identification of sample types. The colour caps used are generally yellow, green, red and blue.

The samples taken include:

Micro sample

- If the supplier has multiple vats then a sample must be taken from each vat
- Identification should be marked as Vat 1, Vat 2 etc.
- This helps to identify any cleaning or cooling problems which may be occurring at the farm.

Composition sample

- This compositional sample includes the suppliers' somatic cell count
- This sample is to be taken from the drip sampler on the tanker
- The vat must be agitated for at least 2 minutes before this sample can be taken.

Tanker samples

Two tanker samples are taken which are:

- compositional sample
- micro sample.

These samples are used to determine the quality and composition of milk being received by the processor.



NOTE 3 PROCEDURE FOR DIP SAMPLES

1 Conventional storage vat

Agitate the milk in the vat for a minimum of two (2) minutes, or until it is thoroughly mixed.

Using tongs

- 1 Remove tongs from sanitiser solution (where relevant).
- 2 Hold sample bottle in tongs with one hand while removing the cap with other hand. The cap must be held at all times and not put down on any surface.
- 3 Dip the sample bottle into the milk and take a sample. Do this in one forward sweep. Fill to about 80% capacity. A small air space must be left in the sample bottle to assist mixing at the laboratory.
- 4 Immediately replace the cap, avoid contaminating the sample bottle neck and cap.

Using dipper

- 1 Remove the sample dipper from the sanitising solution. Care must be taken to completely empty all sanitising solution from the dipper before sampling the milk.
- 2 Immerse the dipper three times in milk in the farm tank. Empty it completely each time to eliminate any remaining sanitising solution.
- 3 Open the container and empty dipper into the sample container, avoiding contamination.
- 4 Immediately replace the cap, avoid contaminating the sample bottle neck and cap.

Then

- Correctly identify the sample and immediately place in the cooling system (Esky).
- Rinse the sampling tool and place in sanitiser solution as appropriate.

Notes on DIP sampling

- If the lid or sample bottle is dropped, obtain a complete new sample bottle and lid, and start again.
- The sanitiser must be changed after each tanker load is delivered to the processor.
- When milk is collected from more than one vat on a farm, the operator should write the volume on each container (for laboratory purposes).
- Under no circumstances are bottles to be held in the hand and immersed in the milk to take samples. This practice adds considerable contamination to the milk from hands fouled by handling the tanker hose fittings, spanners etc.

2 Milk storage silos

Different methods are used for sampling farm milk silos, dependent on the type of silo.

Method 1

- Make sure that the milk is agitated for a minimum of two minutes. For large silo style vats this should be at high speed.
- Turn on sampling tap, allow some milk to run into a separate container (approximately 1 litre).
- Then, while the milk is still flowing, collect the sample directly into the sterile sample bottle to about 80% capacity.

Method 2

Dip samples may be taken just before the tank is emptied using the lower manhole door for access.

Other sampling devices

Using a sterile urine sampler ('squeeze tube')

- Keep the sampler in its outer wrap until ready to use it.
- Before tearing the wrap, ensure that the narrow suction tube is at the bottom of the 'test tube' and tighten the lid.
- Tear open the wrap at the bottom of the 'test tube' and remove the whole unit. Do not allow the suction tube to touch your hands or any other object. Discard the outer wrap.
- Dip the end of the suction tube into the well agitated milk and fill the test tube by alternately squeezing and releasing it. It should be filled enough for the level of milk to reach the bottom of the lid portion when it is in its normal storage position.
- Carefully remove the suction tube and immediately close the opening in the lid using the cap provided.
- Ensure the screw cap is tight. Label immediately with the supplier's number.
- Place the sample in the transport container. (The tube must be firmly held in the rack so that it does not float in the ice and water if applicable)

NOTE 4 EARLY MILK COLLECTION DECISION-MAKING TOOL EXAMPLES

Table 1 Milk cooling envelope – 1st milking

| Time post milking hrs:mins | 0:00 | 00:10 | 00:20 | 00:30 | 00:40 | 00:50 | 01:00 | 01:10 | 01:20 | 01:30 | 01:40 | 01:50 | 02:00 | 02:10 | 02:20 | 02:21 |
|----------------------------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Maximum temperature °C | 25.0 | 23.5 | 22.1 | 20.7 | 19.3 | 17.9 | 16.5 | 15.0 | 13.6 | 12.2 | 10.8 | 9.4 | 8.0 | 6.5 | 5.1 | 5.0 |

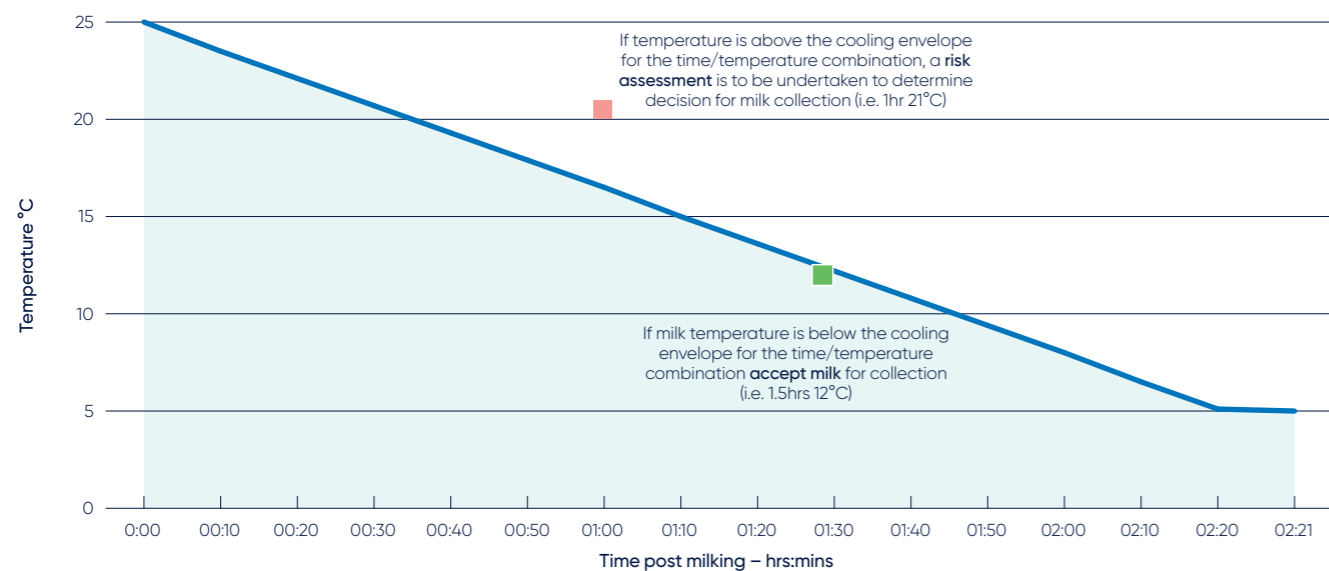
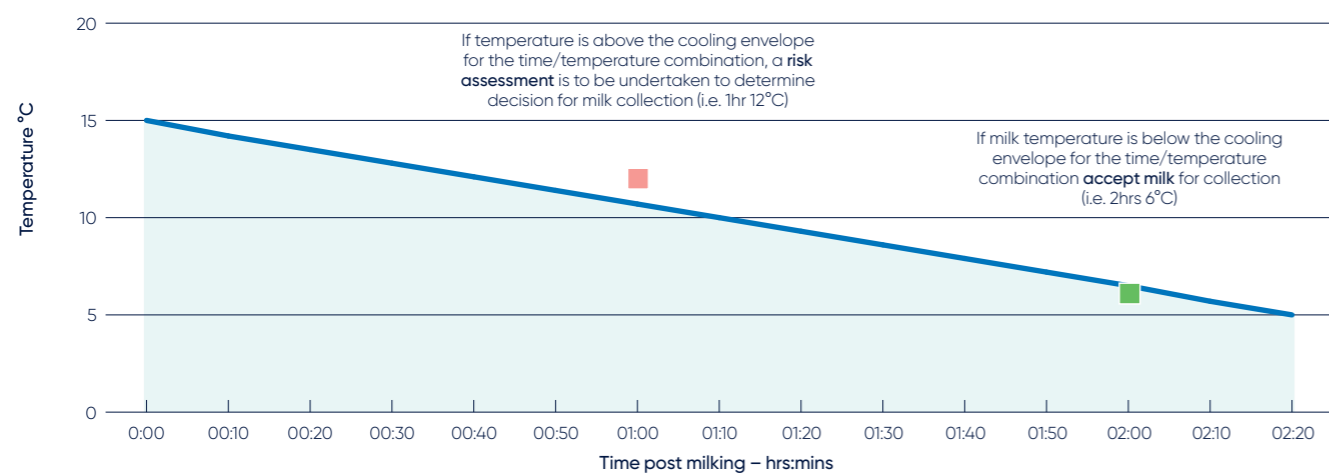


Table 2 Milk cooling envelope – 2nd/subsequent milking

| Time post milking hrs:mins | 0:00 | 00:10 | 00:20 | 00:30 | 00:40 | 00:50 | 01:00 | 01:10 | 01:20 | 01:30 | 01:40 | 01:50 | 02:00 | 02:10 | 02:20 |
|----------------------------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Maximum temperature °C | 15.0 | 14.2 | 13.5 | 12.8 | 12.1 | 11.4 | 10.7 | 10.0 | 9.3 | 8.6 | 7.9 | 7.2 | 6.5 | 5.7 | 5.0 |



NOTE 5 AUSTRALIAN LEGAL REQUIREMENTS

There is a national requirement for milk carriers.

Standard 4.2.4 Primary Production & Processing Standard for Dairy – Division 3 Dairy Collection and Transportation.

There are also state government regulators.

Dairy food authorities

Dairy Food Safety Victoria: dairysafe.vic.gov.au

NSW Food Authority: foodauthority.nsw.gov.au

Safe Food Queensland: safefood.qld.gov.au

Tasmanian Dairy Industry Authority: dpiptwe.tas.gov.au/biosecurity-tasmania/product-integrity/food-safety/dairy

Dairy Authority of South Australia: daosa.net.au

WA Department of Health Food Unit: http://ww2.health.wa.gov.au/Articles/N_R/Primary-production-and-processing-of-food

NOTE 6 MILK TANKER OPERATOR CODE OF CONDUCT

Milk tanker operators must always be aware that what they do on the farm can impact on the operations of the farmer's business and that they serve as an important link between the farmer and the milk factory. For this reason, the factories and the farmers are keen to see that the people performing this task maintain a high standard.

- 1 Milk tanker operators must remain aware that they are dealing with a food and that the farmer's dairy is a premise where food is stored.
- 2 Milk collection standards must be complied with at all times, in accordance with the regulations as applied to the milk tanker operator accreditations.
- 3 At all times, a level of professional presentation and behaviour that meets the expectations of the milk processor, its customers and the dairy industry, must be maintained, including a dress standard that meets proper approval.
- 4 The milk tanker operator should be responsible in any communication with the dairy farmer. Only necessary information relating to milk and the milk processor should be provided. Unnecessary information, or gossip, regarding the milk processor, its employees or other dairy farmers should not be discussed externally.
- 5 When driving on a farm, milk tanker operators should drive as slowly as possible. They should maintain awareness that animals, children and other people are likely to be around the farm and the dairy, including the awareness of the dairy or tanker track is near a house and try to restrict dust and noise as much as possible.

- 6 When performing duties around the dairy, milk tanker operators should act in a manner that will not detract from the standards of the premises. They should restrict, as much as possible, any mess that they may make from spilt milk or carrying mud etc. into the milk room.
- 7 Communication to and from the business is critical. Ensure all issues, comments or concerns are documented on your daily run sheet or communications log book and speak frequently with your supervisor to communicate issues or concerns and feedback.
- 8 Safety and wellbeing is important. Milk tanker operators should be able to perform tasks in safe and respectful conditions.
- 9 Road rules, speed limits and procedures at delivery sites, must be observed at all times.
- 10 At all times, all drivers are required to comply with the traffic laws in the state in which they are working, including but not limited to speeding, parking, traffic control, obey all posted speed signs, traffic lights, zero blood alcohol requirements, demonstrate safe driving to the conditions (be it traffic, roadworks, rain, ice, etc) and be conscious of other good road safety habits.

NOTE 7 HEALTH AND SAFETY AWARENESS DOCUMENT

- All milk tanker operators must ensure their compliance to the health and safety standards of their particular employer of milk processor or milk haulage contractor.
- All milk tanker operators must have a current site induction for any processing site entered.
- All milk tanker operators are required to wear PPE as advised in induction and site signage.
- All incidents, near hits or hazards must be reported to site personnel before leaving the site
- Any injuries must be reported to site personnel immediately.
- Alcohol and other drugs policy and procedure – on entering any workplace all visitors, clients and customers of the milk processor will be required to comply with the policy.
- If an emergency situation occurs while you are on site evacuate to the nearest assembly point (if required).
- Ensure safe speeds are maintained on farm, no more than 15 kph, and walking pace past homes and sheds

Safety and wellbeing

- Safety and wellbeing is important and you should be able to perform your job in safe and respectful conditions.
- Please report unsafe work conditions you may find on any dairy farm, at processing sites, any third party site, or depot to your supervisor. These may include;
 - Unsafe dairy farm driveways (slippery, flooded, cows on driveways)
 - Poorly maintained dairies (lighting, cluttered, vermin, cats etc)
 - Behaviour of dairy farmers or site staff.

Maintenance of facilities/conditions at processing sites

- Please observe road rules and speed limits and procedures at delivery sites
- Abide by your chain of responsibility and alert your supervisor if anything is restricting you from complying to this
- All incidents, including near misses, accidents and injuries are to be reported immediately to your manager.

FURTHER INFORMATION

Contact your supervisor or visit the Safe Work Australia website safeworkaustralia.gov.au.



Disclaimer

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