MILK QUALITY PROGRAM

MILK DEPARTMENT

2019

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Welcome

Welcome to the Milk Department!

The Milk Department manages milk pools and farm sustainability programs with Farmers and Milk Buyers. We have established a quality milk program with a robust milk policy to ensure the delivery of high standard milk.

The Milk Department provides the following integrated services.

- Contract Management between the Milk Buyer and Farmer
- Collection of the milk
- Quality testing and sampling
- Reporting

We work with Milk Buyers and Farmers to determine their requirements for raw milk and then align them to meet each other needs.

The Milk Department team is responsible for ensuring superior quality raw milk is supplied in an efficient way to meet consumer requirements.

Our team looks forward to working with you.

Regards

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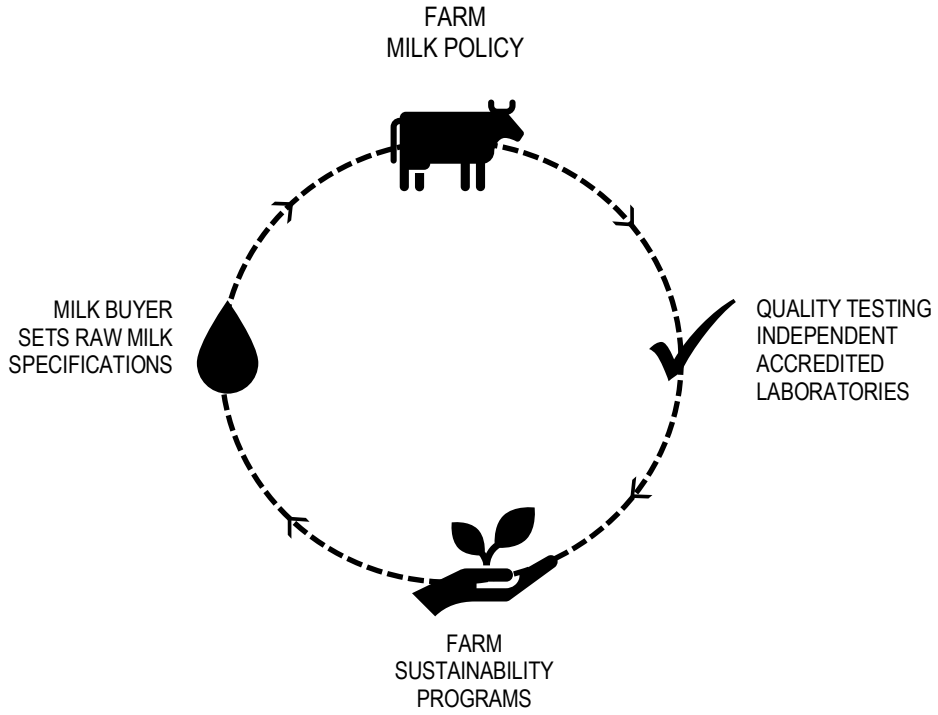
1. Milk Department Quality Program

The following diagram outlines the key components of our milk quality program.



2. Interpretation of the Milk Policy

The Milk Department quality program is designed to promote the supply of premium raw milk to the Milk Buyer's specifications.

The **Milk Policy** forms part of the Milk Department Quality Program that specifies the parameters required for sampling and testing of raw milk. This policy compliments the raw milk specifications detailed in the contract between a Milk Buyer and a Farmer.

The specifications for raw milk outlined in this document can have a bearing on payments made for milk if not met, however the agreement between 'the Milk Buyer 'and 'the Farmer' and compliance with that will prevail in determining the price paid for milk.

3. Milk Department Sustainability and Stewardship

Our quality programs are designed to promote sustainable practices and good stewardship around the production and supply of raw milk. The Milk Department is an advocate of direct to farm contracts and collaborative working approaches to establish sustainability imperatives and workable plans for a more certain future. The Milk Department only operates with transparent milk management systems and clear setting of performance criteria from the outset to ensure a service of high integrity.

4. Program Compliance

Milk Department diligently monitors Farmer's compliance with all raw milk specifications as defined by the Milk Buyer and under the Milk Quality Program.

Milk Department undertakes that it will disseminate in a timely manner all testing results and other important information to allow Farmers to reasonably comply with the Milk Quality Program. Our Field Services Team is available to provide assistance with compliance matters and is happy to discuss any feedback you may have.

5. Dissemination of Results

All results obtained from milk testing may be provided to the following parties.

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Table 1. Authority for the dissemination of results

The Party	Rationale
Farmer	Produces the milk for sale or alternatively their incumbent nominee does.
Milk Buyer	Purchases the milk in accordance with the details of their contract with the Farmer.
Regulator	Legislative remit obligations.

6. Vat Breakdown or Power Failure

If a vat or power failure eventuates please immediately notify the Milk Department. Milk Department will then endeavor to find a solution for the Farmer so their contractual obligations can be fulfilled.

Where the Milk Buyer contract allows, and it is logistically feasible to do so, a Farmer may request that additional milk collections scheduled to minimise the impact of the incident. In this instance, Milk Department will endeavour to arrange alternate collection and delivery arrangements to enable the sale of the effected milk. The costs associated with such additional milk collections will be charged to the Farmer.

7. Insurance Cover

Farms should have adequate insurance of at least $10 million, or as specified by the Milk Buyer, which covers any potential income loss, contamination or damage. The Milk Department is unable to provide insurance services; however, we will assist famers by way of a letter with any incidents that may eventuate.

8. Milk Disposal

Raw milk which is not compliant with the Milk Buyer's specifications, must be disposed according to Dairy Food Safety Standards or an alternate Milk Buyer potentially found through the Milk Department. All associated costs are the Farmer's responsibility. If you need assistance with this, please contact our Field Services Team.

9. Specifications for Raw Milk

Milk Department is obliged to comply with any prescribed government regulatory standards for raw milk. As such, The FSANZ Food Standards Code (referenced 4.2.4) requires specific compliance (see table 2).

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Table 2. Milk Department testing specifications for raw milk, as per FSANZ standards.

Component	Standard	Test Methodology	Testing Regime
Butterfat	Target Butterfat Content >3.9% m/v; control limit ≥3.2%. This range allows for seasonal variation.	Based on International Dairy Federation (IDF) Standard 141C:2000.	Each collection tested
Protein	Target Protein Content 3.2% m/v; control limit is ≥3.05%. This range allows for seasonal variation.	Based on IDF Standard 141C:2000.	Each collection tested
Somatic Cell Count (SCC) SCC is an indicator of the quality of milk. The number of somatic cells increases in response to pathogenic bacteria a cause of mastitis.	Target <200,000 count/ml. Control limit ≤400,000 Refer to milk quality payment scale.	Based on IDF Standard 148-2:2006 (E).	Each collection tested
Bactoscan (Bacto) Tests for overall dairy farm milk hygiene program.	Target <80,000 bacteria/ml. Control limit ≤125,000 Refer to milk quality payment scale.	Based on IDF Standard 161A:1995 & Australian Standard (AS) 5013.5-2004.	Test conducted each 10-14 days period
Thermoduric Test for particular bacteria that are heat tolerant.	Target < 2,000 cfu/ml. Control limit ≤5,000 cfu/ml.	Based on AS 5013.28 & AS 5013.14.2	Monthly test
Temperature	Milk being collected should be 4°C or less. Milk will not be collected above 4°C unless agreed.		Check at each collection
Freezing Point Test to detect added water.	Freezing point must be no greater than -0.517°C.	Based on IDF standard 108:2002.	Random checks will be conducted
Antibiotics	Clear of antibiotics (<0.003 ug/ml) If a Farmer suspects milk from a cow treated with antibiotics has been milked into the vat please contact Field Services to arrange an antibiotics test before milk collection	Beta-star or comparable screen test	Antibiotics tests will be conducted on each tanker before delivery to a processor / manufacturer
Blood in Milk	No Blood in Milk	Sensory	Sensory check at each collection
Sour Milk	Clear	Sensory	Sensory check at each collection
Extraneous Matter (Sediment)	Clear	Visual	Random checks will be conducted

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Component	Standard	Test Methodology	Testing Regime
Colostrum	Clear – Colostrum should be withheld from milk supply for at least 96 hours after calving	Sensory	Sensory and Random checks will be conducted
Other Inhibitory Substances	Milk must be clear of foreign matter, unacceptable odours and/or taints	Sensory	Daily Checks
Animal Feedstuffs	The Milk Supply Policy requires the suitability of all stock feed to be assured. Regulatory compliance, including compliance with the ruminant feed ban, must be guaranteed. Vendor declarations must be sought for all feedstuffs. Vendor declarations need to identify the supplier of the feed, description of feed, date supplied, suitable for use to feed to dairy cows as per Dairy Industry Standards including free from pesticides, chemical residues and ruminant animal material. Feedstuffs are to be GMO free and vendor declarations should be sought to the GMO-free status of the supplied feedstuff.	Audit	Random checks will be conducted

10. Microbiology Tests

Plant hygiene and maintenance standards on farms are regularly monitored through sampling and microbiology testing. Total Plate Count and Thermoduric tests may be taken at every milk collection.

The regularity of testing is related to the results impact on milk price and the Milk Buyers' raw milk specifications.

Table 3. Indicative microbiological testing frequency

Test Type	Results Tolerance	Test Frequency
Total Plate Count	If the result is above 10,000 a retest will be conducted.	Every 10 days on average
Thermoduric	If the result is above 2,000 a retest will be conducted.	Once a month
Somatic Cell Count	If a daily result varies by greater than 20% or change grades to the previous day the result will be reviewed.	Each collection

Farmers may wish to conduct their own independent test at their own cost. Please ask Field Services if you would like any assistance.

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11. Animal Health

Milk must only be sourced from animals that are in good health and do not show any evidence of infectious diseases transferable to humans that can be passed through to the milk.

The Milk Department supports the National Dairy Industry Animal Welfare Strategy and requires all suppliers to comply with the Australian Animal Welfare Standards and Guidelines for Cattle and the Australian Animal Welfare Standards and Guidelines for Land Transport for Cattle and to employ sound animal husbandry practices and management systems.
Areas of particularly focus

- The management of all calves meet agreed industry practices and standards.
- Tail docking is only done under veterinary advice to treat injury or disease.
- Calving induction is only conducted under veterinary advice.
- Appropriate pain relief and sedation is applied when dehorning.
- No tethering of cows in tie stall systems.
- Sick or injured cows are managed to minimise risk to their welfare with adequate shelter feed and water.
- Farm workers adhere to their requirements for the care and handling of animals.

Milk Buyers may include other specific key goals in animal husbandry as part of their agreement with Farmers.

12. Collection

Safe and efficient access to farm and the dairy is a condition of supply. All access roads and turn arounds should be constructed so that a B double truck can enter the farm, turn and exit without undue damage to tracks or to the tanker equipment.

The Milk Department will endeavor to fulfil individual requests for additional pickups provided tanker logistics are not significantly impacted. There will be no charge passed on if additional collections are needed due to logistics requirements as determined by the Milk Department.

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Appendix 1. Sampling and Testing Processes

1. Raw Milk Sampling

All samples have a unique barcode to identify the farm.

If a Farmer sells milk under more than one contract, test results to monitor compliance with multiple contracts can be arranged.

Test results are disseminated by SMS &/or email to the Farmer.

At each collection a minimum of two raw milk samples are taken. A compositional sample is taken in-line as the milk is being transferred to the tanker. The sample taken is tested for milk components and somatic cell count. Another sample maybe taken by the driver directly from the vat.

A composite sample is taken in part from each vat, where there are multiple vats. If segregation of milk is required, sampling and testing will take place to ensure the integrity of each batch. This sample may be tested for inhibitory substances, TPC, thermoduric and freezing point.

2. Microbiological Testing

Microbiological testing monitors the effectiveness of a farm's dairy hygiene systems.

Total Plate Count (TPC) - measures the bacterial load in raw milk using Bactoscan technology. The test is performed on raw milk each 10-day period. Test results will be provided generally within 36 hours of sampling on weekdays and 48 hours of sampling on weekends.

If a test result is outside Grade A (refer **Milk Quality Matrix Table** 4. page 11), a second test is undertaken using the next available sample. The lower of the two results will be the official result for the period. Milk Department may recommend a Milk Buyer exercise discretion with respect to enforcement of a milk price penalty if the TPC result is >20% variation from the previous test result and additional advisory testing indicate that the result is inconsistent with the trend of results from samples collected in the same period.

When required by a Milk Buyer or requested by a Farmer, the Bactoscan test result will be reported as an Individual Bacteria Count (IBC).The formula applied to convert a TPC to an IPC result is based on the methodology recommended by the International Dairy Federation and accepted by the Department of Agriculture, Fisheries & Forestry.

Thermoduric

A Thermoduric test measures bacteria that are heat tolerant and is undertaken on raw milk each month. Thermoduric testing requires the milk sample to be incubated for a period of three days. Unless required by a Milk Buyer's raw milk specification, the result is considered advisory. The following bands are intended to assist with the interpretation of a thermoduric result.

Thermoduric Band – Guidance Only

0 – 2,000	–	Premium Result
2,001 – 5,000	–	Satisfactory Result
5,001 – 10,000	–	Review Hygiene Program
Greater than 10,000	–	Plant Inspection Recommended

Advisory Tests

Additional advisory TPC or thermoduric tests can be requested through Milk Department. Samples will be collected by the driver and results reported in accordance with the timelines for official test results. The costs associated with this additional service will be charged to the Farmer.

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Somatic Cell Count (SCC)

SCC is an indicator of the health of the dairy herd. The number of somatic cells in raw milk increases in response to pathogenic bacteria, a cause of mastitis.

Each collection of raw milk is tested for SCC.

Any daily result that varies by >20% or changes grade from the previous daily result will be withheld by Milk Department and reviewed against subsequent results prior to confirming the official result for the period. No re-sample procedure applies to the SCC test as it is conducted on each consignment of milk. Test results will be provided generally within 36 hours of sampling on weekdays and 48 hours of sampling on weekends.

Farmers should monitor individual stock SCC by including regular herd testing as part of their Animal Health Plan.

Inhibitory Substances

If contamination is suspected, you must contact Milk Department immediately and prior to collection. Our field team will manage the impact of the incident to ensure all contractual obligations are met.

It is compulsory that all milk tested comply with the following.

1. Be DelvoTest SP-NT and/or Beta-star negative (or a comparable rapid screen test approved by Milk Department).
2. Not exceed the Maximum Residue Level as per Australia New Zealand Food Standards Code.

Each farm will be as part of a monthly routine tested at least once, with each tanker is tested prior to unloading. If, on routine farm testing or by trace back from tanker testing, a farm has a positive test for inhibitory substances, all future collections will be suspended immediately. Milk collection will resume when a vat sample is tested negative by Milk Department after an investigation into the breach will be undertaken and corrective action has been adopted to prevent a re-occurrence.

All costs associated with the management of a contamination incident and any incident are the responsibility of the Farmer. An additional 50% surcharge will be applied for services delivered by Milk Department as a result of subsequent contamination incidents within 12 months of the date of the initial incident.

Additional tests to monitor for the presence of inhibitory substances in milk may be conducted at the discretion of Milk Department following a positive detection. Except where the Milk Buyer contract provides otherwise, the costs associated with such additional testing will be incurred by the Farmer.

Antibiotic affected milk

If milk from a cow affected by antibiotics is believed to have entered the vat **you are obliged to immediately** contact the Milk Department.

There are a number of options available to the Farmer at this point.

a. Have a sample of the milk tested by the tanker driver using Beta-star prior to collection. The cost of this service will be charged to the Farmer unless the relevant Milk Buyer contract provides for this service.
b. Stop the collection and dispose of the milk on-farm in accordance with the relevant regulation.
c. Stop the collection and arrange to dispose of the milk off-site. If requested, Milk Department can arrange this on a fee-for-service basis.

If testing indicates a negative result, the milk will continue to be collected. Please be aware that payments are dependent on quality compliance with a Milk Buyer's raw milk specifications including results of routine farm testing and tanker trace back testing. If the sample result is positive, the milk will not be collected with no interruption to future scheduled milk collections.

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Milk Monitoring on Farms

Test kits will be supplied to Farmers at cost by Milk Department to facilitate the regular assessment of any inhibitory substances in milk. This can be arranged with our Field Services Team. The results of these tests are classified as advisory and it is the routine tanker test results that will prevail.

The Senses Test

The tanker driver will conduct a senses test prior to collection. Milk that contains any visible foreign matter, discoloration, clotting from blood, signs of colostrum or unacceptable odour will be rejected by the driver.

Colostrum

A Farmer must ensure that the storage of colostrum does not interfere with a tanker driver's ability to conduct a senses test on the milk for sale.

Milk Cooling

Milk should be 4^{o}C or less when collected. Driver thermometers will be the official basis for recording milk temperature.

Control limits for milk temperature are included in a Milk Buyer's raw milk specification.

It is the farm owners responsibility to ensure they have adequate storage and cooling facilities to meet the contracted requirements.

Milk Department must ensure that the temperature of each tanker load meets a Milk Buyer's delivery specification. To the extent permitted by a Milk Buyer's delivery specification and/or a Milk Buyer's raw milk specification, Milk Department will apply discretion with respect to collections that occur in the immediate hours following the completion of milking.

All milk collections must comply with the validated time-temperature controls approved by the relevant State Regulatory Authority.

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Appendix 2. Summary of Standards

All milk that is transacted and/or managed by Milk Department must comply with the requirements of standard 4.2.4 of the Food Standards Australia New Zealand (FSANZ) Food Standards Code and be produced in accordance with a HACCP based food safety program.

The price implications of the various grades are set in the Milk Buyer's Raw Milk Specification. However, as a general rule, Milk Department recommends that the base milk price is set at grade A.

A Milk Buyer may implement an alternative milk quality model to that outlined in this Policy. With the exception of those variations to this Policy that are identified in the Milk Buyer's Raw Milk Specification, all other requirements of this Policy remain enforceable.

Table 4. Milk Department Milk Quality Matrix

Quality Test	Grade A	Grade B	Grade C	Inferior	Reject
Somatic Cell (count /ml)	≤ 200 000	> 200 000 ≤ 275 000	> 275 000 ≤ 350 000	> 350 000 ≤ 400 000	> 400 000 2 consecutive results
Bactoscan (bacteria/ml)	≤ 80 000	> 80 000 ≤ 100 000	> 100 000 ≤ 125 000	> 125 000	
Antibiotic and Other Inhibitory Substances	Clear				Present
Temperature (°C)	0 – 4°C	Milk > 4°C will be subject to a quality review.			
Sensory	Pass				Fail
Freezing Point (°C)	≤ – 0.517 °C			> – 0.517 °C	

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