Farmers (producing milk for raw milk cheese)

Producers of raw milk for cheese will need to demonstrate how they manage animal health and identification, control inputs, enhance the hygiene of milking operations, and meet more stringent microbiological criteria. Specific requirements can be grouped as follows:

Documented food safety program (FSP)	Animal health, identification, and tracing	Control over inputs	Health and hygiene requirements	Milking practices and milk cooling	Control non-conforming product

Requirement (Standard 4.2.4)	Expectation	Limit/evidence	Desk audit	Ongoing auditing
Documented FSP	Documented and validated FSP addressing additional requirements under 4.2.4	Required	FSP in place (Including a detailed HACCP process and identification of CCPs)	✓ Evidence that FSP is in operation
Animal health, identification, and tracing	Producer controls disease through herd manage-ment and vaccination	Required	Documented Herd Health Program	Animal treatment records Annual veterinary inspection
	Diseased animals are segregated from herd and not introduced into herd	Required	Documented Herd Health Program	Animal treatment records Annual veterinary inspection
	Producer has procedures and practices designed to control mastitis	Mean somatic cell count: <200,000/ml (bovine) <10^6/ml other species	Documented in FSP	Somatic cell count records (May include data on individual animals)
	Animals identified with non-removable tags	Required	Documented animal identification system	✓ Milking records
	Cows treated with veterinary medicines are identified	Required	Documented in FSP	✓ Milking records
Control over inputs	Silage must not be fed to animals milked for milk for raw milk cheese	Required	Documented in FSP Feed records	✓ Alternative compliance is possible but needs to be approved
	Potable water in use for contact surfaces, teats and hands	Town water, treated ground or surface water used in dairy	Documented in FSP	Review testing data
Health and hygiene requirements	Procedures covering personal hygiene: hand washing, clothing, illness, covering wounds, etc	Required	Documented in FSP Hand washing policy Clothing requirements	✓
Milking practices and milk cooling	Clean and dry teats before milking	Required	Documented in FSP	✓
	Producer practises good milking hygiene	Total plate count <25,000 cfu/ml	Documented in FSP	TPC records (weekly on bulk milk)
	Producer controls faecal contamination	*E.coli* <10 cfu/ml Limit: 100/sample	Documented in FSP	*E. coli* records (weekly on bulk milk
	Producer monitors pathogen status of herd	*Salmonella* ND/25ml *L.monocytogenes* ND/25 ml; *S. aureus* <100/ml	Documented in FSP	Pathogen records (weekly initially, then monthly if results are reliably good)
	Milk cooled to 6°C within 2 hours of milking, then 5°C	Required Verify alternative compliance arrangements	Documented in FSP	Review milking records
	Clean and sanitise dairy equipment	Required	Documented in FSP	✓
Control non-conforming product	Separate raw cheese milk from other milk	Required	Documented in FSP	✓

These requirements are listed in Division 5 (*Additional requirements for raw milk cheese*) of Standard 4.2.4, and further described in Supporting Document 1 (FSANZ, 2014).They are in addition to standing requirements under Standard 4.2.4, which include pre-requisite program requirements such as servicing and maintenance of equipment, calibration of measuring equipment, pest control, etc.

Important requirements under the standard are measurements of the somatic cell count and microbiological contamination in the raw milk. It is proposed that assessment of these limits will be based upon a moving window[1].

Under the moving window concept, sample units (n) are tested over time and the results are compared with the limits (m and M) using the acceptance number (c). Each time a new result is reported it is added to the window while the oldest result is removed, creating the moving window. This approach provides a practical and cost effective way of continuously checking performance *e.g.* raw milk microbiological status, somatic (bulk milk) cell counts, etc and assists in identifying shifts in the attributes being measured and facilitates early identification of the need for corrective action.

Under the moving window concept, the following criteria are recommended:

Bulk milk cell count: n=5, c=1, m=200,000, M=400,000

Under a moving window, the five most recent samples are compared. No sample may exceed 400,000; and one sample may be between 200,000 and 400,000. At any point along the moving window, four or more samples must be less than 200,000 cells/ml.

Total plate count: n=5, c=1, m=25,000, M=50,000

E. coli count: n=5, c=1, m=10, M=100

S. aureus count: n=5, c=1, m=100, M=1,000

Where raw milk fails these criteria, the subsequent milkings should be diverted to other uses such as pasteurised or cooked curd cheeses until test results demonstrate that the five most recent test samples meet the recommended criteria. The following graphic demonstrates how the moving window concept would operate. In this example, results for periods 3-7 would require the milk to be diverted until test results showed that five samples met the criteria.

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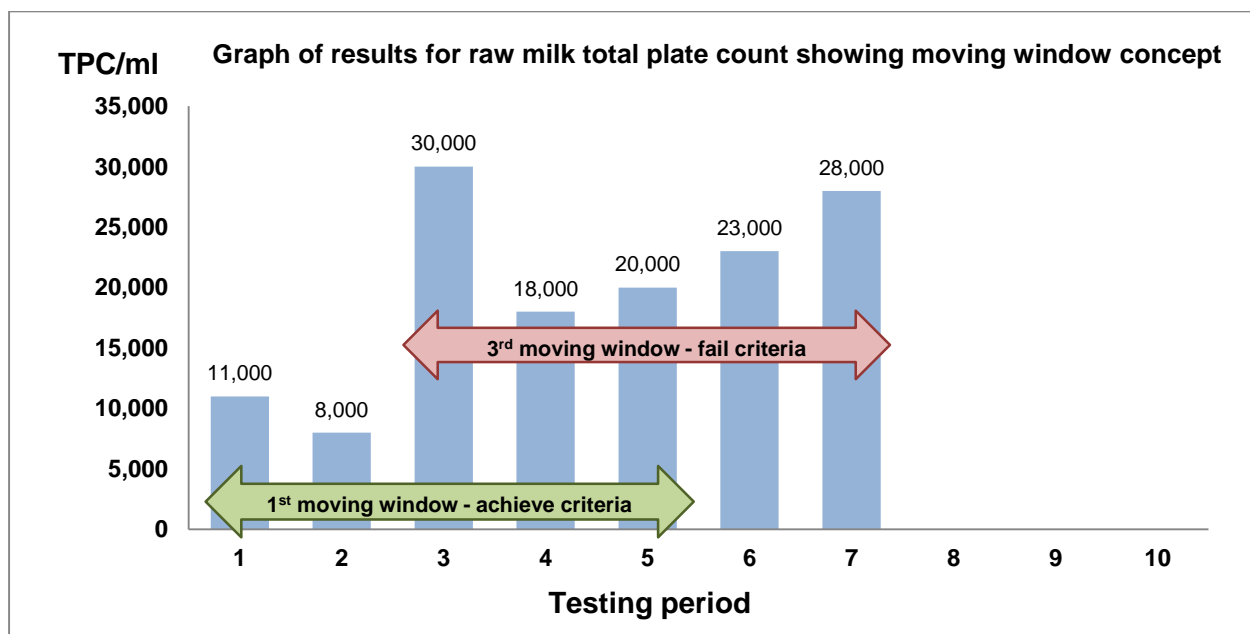
[1] Codex (2013). Principles and guidelines for the establishment and application of microbiological criteria related to foods. **CAC/GL 21 – 1997**