



Troubleshooting Milk Quality in Small Ruminants

The tables below cover four common areas that can impact milk quality. Each table lists a target to aim for, how to check it yourself, and when to enlist the help of a service technician. For **high somatic cell counts**, start with milking equipment, routine, and animal health & hygiene. For **high bacteria counts**, start with the milkhouse section on the back page.

Milking Equipment

Item	Target	How You Check It	When to Call a Technician
Vacuum level	Goats: 10–12" Hg Sheep: 10–12" Hg	Read the vacuum gauge before every milking.	Have your technician check & calibrate 1–2×/year, and any time the gauge looks off.
Pulsation rate & ratio	Goats: ~90 ppm, 60:40 Sheep: ~120–180 ppm, 50:50	Listen for the rhythm of units; uneven or irregular sound is an early clue.	Have your technician check & calibrate 1–2×/year — exact settings are equipment-specific.
Inflations	Change inflations at regular intervals, at least once per year if number of milkings is not met.	Check for cracks in inflation or inking	—

Milking Routine

Item	Target	How You Check It	How to Improve
Milking unit alignment	Units hang evenly on every animal	Observe at every milking.	Reposition units for even weight on both teats; adjust equipment if needed.
Post-dip coverage	Full coverage of teat barrel & teat end	Observe at every milking.	Use a high-quality post-dip (iodine or chlorhexidine)

Animal Health & Hygiene

Item	Target	How You Check It	How to Improve
Teat end health and animal behavior	No open lesions on teat, minimal signs of hyperkeratosis or teat end swelling. Animal appears calm and comfortable during milking; minimal kicking.	Observe teat ends within 60 seconds of removing milking unit. Observe animal behavior during milking.	Maintain proper vacuum/pulsation; replace inflations on schedule; remove units as soon as flow slows; use a consistent routine.
Teat end cleanliness	Ensure end of teats are clean and free of dirt/manure, and pre-dip (if using).	Periodically check teat-end cleanliness: Wipe teat ends with an alcohol swab after prep, before unit attachment.	Wear gloves; focus on the teat end during prep; use one clean towel per animal.
Managing contagious mastitis (Staph aureus)	Minimize transmission between animals	Take bulk tank sample or individual sample from suspect animals. Consider culturing first-lactation animals after kidding/lambing.	Milk staph aureus-positive animals last. Cull positive cases when possible.

In the Milkhouse — Wash & Water

EQUIPMENT

Have a technician come out yearly to perform a full NMC evaluation on slug analysis and examine milk line slope for proper drainage between wash cycles.

WATER QUALITY

Bacteria incl. <i>Pseudomonas</i>	Test if persistently high bacteria (LPC) counts — sample well, hot & cold water.	Labs (see Resources) test/culture water. Consider shocking the system or a UV/peroxide treatment.
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WASH TEMPERATURE

Pre-Rinse	Temperature should be between 95°F to 115°F.
Alkaline Wash	Start ≥160°F · Dump ≥120°F.
Acid Rinse Cycle	Temps should be between 95°F to 110°F for warm rinse or ground water temps for cold rinse. Circulate for 3 to 5 minutes.

If temps run low, check: undersized water heater · heater thermostat setting · air blown into the pipeline · long pipeline runs · mineral buildup in the heater.

WASH CHEMICALS

Make sure you are using recommended amounts and products. Have chemical provider check chlorine, alkalinity and pH.

Resources for Maine Farmers

MILK & WATER TESTING	EQUIPMENT SERVICE & TESTING
U. Maine Diagnostic Lab	Central Maine Dairy Equipment
QMPS Lab (NY)	IBA Dairy Supplies
Dairy One (Ithaca, NY)	

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