

**RAW MILK ASSOCIATION OF COLORADO
STANDARDS AND RECOMMENDATIONS**
Updated October 14, 2010

I. **OBJECTIVE:** The objective is to provide advisory standards under which raw milk can be produced and distributed through a contractual relationship between farmer and consumer. Standards for all RMAC producers as well as those willing to earn the RMAC Seal of Excellence are documented below.

II. **REQUIRED STANDARDS:**

A. **LEGAL STANDING:** All Colorado RMAC producers will comply with Colorado law as required by Colorado statute ([25-5.5-117 Raw Milk](#)). Producers are required to read and understand this.

a. It is illegal in Colorado to outsource any milk from other producers for production of dairy products under the herdshare agreement.

B. **EDUCATION: Required**

i) **Producer Education**

(1) New Producer package (provided by RMAC)

(a) Raw Milk Production Handbook by Tim Wightman

(b) Safe Handling - Consumer's Guide by Peggy Beals, RN

(c) Lab test vials, labels, and Guidelines for sample collection, labeling and interpreting results. (softcopy)

(d) Copy of RMAC Standards (softcopy)

(2) Ongoing Producer education

a. DVD "Chore Time" <http://www.farmtoconsumerfoundation.org/fsr/> (free download – Part 1 is 1 hour, part 2 is 37 mins)

(ii) **Shareholder Education**

(3) Farm Tour – Herd, grounds, food storage, water source, milk barn, bottling area

(4) Herd Health Management document – (softcopy)

(5) Milk Handling document – (softcopy)

(6) Health Risks of raw milk – (softcopy)

C. **DOCUMENTATION: Required**

a. **CDPHE:** All Colorado raw milk producers are required to register with the Colorado Department of Public Health and Environment (CDPHE).

a) Regional Members are required to comply with Colorado law regarding herd shares, except they do not need to register with CDPHE.

b. **Producer:** Copies of the consumer-farmer contracts will be kept on file at the dairy facility. They will consist of:

a) A Bill of Sale

b) A Boarding Contract outlining the rights and responsibilities of both parties.

c) Conditionally, a Service Contract outlining the services provided by the producer to produce dairy products. (This may be written into a Boarding Contract.)

c. **Producer:** A copy of Herd Health and Raw Milk Production Standards will be made available to each potential customer prior to signing a contract with the producer.

d. **Product:** A prominent label with the words "Raw/Unpasteurized" and the production date is affixed to all dairy product containers, effective 5/1/2009.

D. **PRODUCTION:**

a. Wet hand milking (from water and/or lubricants) is prohibited. Animal teats and human hands shall be clean and dry during milking.

- b. Abnormal milk (mastitis, blood, serum, gross contamination with manure or dirt) shall not be used for human consumption.

E. MILK SAFETY TESTS

- a. RMAC supports both on-farm and 3rd party testing for milk safety tests. We have selected Microbial Research, Inc for 3rd party testing and can offer a substantial discount to our members. There is a variety of reliable on-farm test equipment, and we encourage you to investigate this option. We urge you to participate in any testing and send us your results. The advantage of 3rd party testing is it is less subject to criticism by the scientific and regulatory community, and accusations of subjective interpretation of results. RMAC plans to build a milk safety database containing 3-5 years of test results. This will serve as a tool for continuous process improvement, and build consumer confidence in raw milk products.

- a) **Test Reporting**

- (1) **Required for ALL Producers** per Colorado Raw Milk statute: Test results will be made available to shareowners along with an explanation of the tests.
- (2) **Required for ALL Producers** – All producers must conduct milk safety tests on a monthly basis. (09/27/2010). Test results will be made available to shareowners and to RMAC Test Administrator on a monthly basis.
- (3) **All producers shall report required testing results of on-farm or third party testing** to a centralized RMAC database or an RMAC Test Administrator. Results of on-farm tests must be shared with shareholders at least once a month for any animals on the milk line.
- (4) **Required for RMAC Seal of Excellence:** Test results must consistently meet RMAC Herd Health & Milk Safety standards for 6 consecutive months.

- b) **Test Sampling**

- (1) Milk shall be sampled monthly from a “consumer ready” container.
- (2) Milk from all lactating animals of a single species must be commingled into a single sample for monthly testing prior to bottling.

- c) **Milk Test Thresholds REQUIRED for RMAC Producer Members**

- (1) Milk Quality

- (a) Bacterial limits 15,000 CFU/ml (Standard Plate Count)
- (b) Coliform limits 50 CFU/ml

- (2) Pathogens

- (a) Salmonella limit 0 CFU/ml
- (b) Escherichia coli 0157:H7 limit 0 CFU/ml

- d) **Test Reporting**

- (1) Test results will be made available to all shareowners along with an explanation of the tests.

- b. **ANIMAL HEALTH TESTS**

- a) **All Dairies** - All animals in the herd must test negative for TB and Brucellosis on initial test. Any new animals coming from off-farm must be tested prior to being added to the herd. All positives must be removed from the herd immediately.
 - (1) **All Cow Dairies** - All animals in the herd must test negative for TB and Brucellosis on initial test and then once every three years for cows. Any new animals coming from off-farm must be tested prior to being added to the herd. All positives must be removed from the herd immediately.
 - (2) **All Goat Dairies – Closed Herd** - All animals in the herd must test negative for CAE, TB and Brucellosis on initial test. Any new animals coming from off-farm must be tested prior to being added to the herd. All positives must be removed from the herd immediately.

- (a) **Goat Dairies – Open herd** – All animals must test negative for CAE, TB and Brucellosis every three years. Any positives must be removed from the herd immediately.
- b) Lactating animals which show evidence of the secretion of abnormal milk in one or more teats, based upon physical examination, shall be milked last or with separate equipment; and the milk shall be discarded.
- c) Lactating animals treated with, or animals which have consumed agents capable of being secreted in the milk and which may be deleterious to human health shall be milked last or with separate equipment, and the milk disposed of until it is safe for human consumption.
- d) Lactating animals which show evidence of systemic illness, based upon physical examination, shall be milked last or with separate equipment and the milk discarded. Examples of such systemic illnesses include, but are not limited to, [mastitis \(inflammation of the udder\)](#), [metritis](#) (inflammation of the womb), [ketosis](#), [fatty liver](#), and [pneumonia](#).
- e) Milk from animals treated with antibiotics must be discarded until the [drug withdrawal period](#) has passed.

F. COMPLIANCE:

- a. If milk quality tests exceed limits, producer will increase testing frequency until test results are below limits within 2 weeks.
- b. If 3 of the last 5 milk quality tests excess of limits, producer shall cease distribution of raw milk until limits can be achieved.
- c. If pathogen tests exceed limits, producer shall immediately cease distribution of raw milk until limits can be achieved and notify shareholders of potential exposure. Samples of the contaminated milk should be secured for subsequent testing.

G. DISTRIBUTION:

- a. Only those individuals signing a document constituting a legal consumer/farmer contract shall obtain raw milk.
- b. Once raw milk product is passed into the hands of the consumer, or consumer's agent, the proper handling, transporting, and cooling of the milk is solely the responsibility of the consumer or his agent.
- c. Producers will provide each shareholder with documentation about safe handling, storage, and cooling of raw dairy products.

III. RECOMMENDED STANDARDS:

A. DOCUMENTATION:

- a. Records of test results should be kept for a minimum of 12 months. For on-farm testing, a ledger with Date, Test, Results, and Initials of person who performed test is recommended.
- b. All producers

B. PRODUCTION:

- a. The immediate surroundings of the dairy should be kept in a clean, neat condition to prevent breeding of flies and rodents.
- b. Animal cleanliness: The flanks, udders, and tails of all milking animals should be free from visible dirt at the time of milking. All brushing should be completed before milking commences.
- c. Milkers' hands:

- a) Milkers' hands should be washed clean, rinsed, and dried with a single service towel, immediately before milking and immediately after any interruption in the milking operation.
- b) No person with an infected cut or lesion on hands or arms should milk animals, or handle milking utensils or other equipment.
- d. Milker's clothing
All personnel should wear clean outer garments while milking or handling milk, milk products, containers, utensils or equipment.
- e. Milking sanitation:
 - a) Milking should take place in an environment free of dirt, mud, or accumulated manure.
 - b) Teats of animals should be disinfected before milking.
 - c) Teats should be fore-stripped to stimulate milk letdown and to screen for clinical mastitis (abnormal milk).
 - d) Milk should be filtered into a proper milk storage device, or into glass or other impermeable containers meant for final distribution.
- f. Milk cooling
 - a) Milk should be cooled to 40° F (4.5° C) or less within two hours after completion of milking. Blend temperatures of subsequent milkings into bulk storage devices should not exceed 40° F (4.5° C). Bottled milk ready for distribution should be maintained at 40° F (4.5° C) or less.
- i. Equipment sanitation
 - All milk-contact surfaces (milking machines, buckets, pipelines, and containers for final distribution) should be washed and sanitized so as to remove all milk residue, dirt, and [milkstone](#).
 - All multi-use containers, equipment, and other utensils used in the handling, storage, filling, or capping of raw milk and raw milk products should be thoroughly cleaned immediately after each usage.
 - After sanitation, containers and other raw milk and raw milk product utensils and equipment should be handled in such a manner as to prevent contamination of any surface with which raw milk and raw milk products come into contact.
- ii. Bottling
 - Raw milk and raw milk products should be bottled on the farm where produced.
 - Bottling should be conducted in a sanitary method
 - Containers should be labeled "Raw/Unpasteurized Milk" with date code of bottling prior to distribution.

Summary of Standards

Producer Category:	Goat	Cow	Regional Members (Out of state)	Sheep
Required for All RMAC Producer Members				
Legal Dairy: Register w/CDPHE	Yes	Yes	No	Yes
Legal Dairy: Label containers	Yes	Yes	Yes	Yes

Producer Category:	Goat	Cow	Regional Members (Out of state)	Sheep
(Raw/Unpasteurized w/date)				
Legal Dairy: Document Herd Health Practices & teach all shareholders	Yes	Yes	Yes	Yes
Legal Dairy: Document Milk Handling Process and teach all shareholders	Yes	Yes	Yes	Yes
Legal Dairy: Keep copies of Bill of Sale, Service & Boarding contracts for each shareholder on file.	Yes	Yes	Yes	Yes
Legal Dairy: Share any herd & milk test results w/Shareholders	Yes	Yes	Yes	Yes
RMAC Dairy: test herd for TB	Yes	Yes	Yes	
RMAC Dairy: test herd for Brucellosis	Yes	Yes	Yes	
RMAC Dairy: Chill milk to 40 degrees F. or less within 2 hours and maintain that temperature during storage and distribution. Teach consumers how to transport and store dairy products.	Yes	Yes	Yes	Yes
RMAC Dairy: All milk equipment thoroughly cleaned immediately after each use and stored in sanitary conditions.	Yes	Yes	Yes	Yes
RMAC Production Standards (see Recommended Production Standards above) for cleanliness and safe handling are integrated into dairy process	Yes	Yes	Yes	Yes
Product Quality: Required for RMAC Seal of Excellence				
Comply with CO statute (see Legal Dairy list above)	Yes	Yes	Yes	
Member in good standing, dues paid	Yes	Yes	Yes	
Consistently meet RMAC herd health & milk safety standards for 6 months. (See exception below for non-milking herds.)	Yes	Yes	Yes	
Cow Dairy: test herd for TB & Brucellosis Annually		Yes	Yes	
Goat Dairy: test herd for TB & Brucellosis (Closed herd initial test)	Yes		Yes	
Goat Dairy: test herd for TB & Brucellosis every 3 years (non-closed herd)				
Goat Dairy: test for Caprine Arthritic Encephalitis (CAE) . Cull or separate animals with positive test results. Do not use in the milking line	Yes		Yes	
Process Quality: Strongly Recommended				
Goat Dairies: Clean environment with regular pen cleaning	Yes			
Goat Dairies: Feed a variety of unsprayed green forages (trees, shrubs, forbs, alfalfa, grass, etc .)	Yes			

Producer Category:	Goat	Cow	Regional Members (Out of state)	Sheep
Cow Dairies: Grass-based Dairy - Access to green pasture in growing season, hay/alfalfa fed during winter months.		Yes	Yes	
Minimal grain: not more than 1 pound of grain (pesticide-free) per day for cow producers. Producer discretion is necessary according to animal health but generally, pasture-based forage is recommended for ruminants.	Yes	Yes	Yes	
Document the type, amount and source of grain fed	Yes	Yes	Yes	
Access to fresh air, water, sunlight and exercise (cows are not confined and goats have ample space.)	Yes	Yes	Yes	
Dairy Grade milking equipment (Stainless Steel)	Yes	Yes	Yes	
Hard surface flooring in milk parlor	Yes	Yes	Yes	
Glass milk containers	Yes	Yes	Yes	
No growth hormones, no fertility hormones	Yes	Yes	Yes	
No antibiotics	Yes	Yes	Yes	
All-Natural or Organic feed (not necessarily Certified Organic); GMO-free, and raised without pesticides, herbicides, and synthetic fertilizers.		Yes	Yes	
Freeze sample from each batch and save for 30 days	Yes	Yes	Yes	
Water quality – Identify water source for dairy facility (municipal or well water) and test twice a year or refer to municipal water quality records.	Yes	Yes	Yes	
Disclose to shareholders all ingredients in feeds, supplements, and medical interventions used.	Yes	Yes	Yes	
Non-toxic cleaners for teats, milk parlor, and milk jars	Yes	Yes	Yes	

Product and Process Standards for RMAC Seal of Excellence

Product Standard - REQUIRED - Producers must submit monthly milk samples as required by current RMAC standards. Results are submitted to RMAC Test Administrator by the 2nd Friday of the month (This is Standard Operating Procedure for MRI tests; if performed by another lab, producer must make arrangements to have results sent to RMAC). Results will be reported anonymously by RMAC, but producers are required to disclose results to their shareholders and explain what they mean.

Process Standard – STRONGLY RECOMMENDED – Process standards are recommended as best practices, but may not be feasible or appropriate for some dairies. RMAC’s objective is to inform both the producer and consumer about best practices; and let them decide which is best. Producers are encouraged to explain on RMAC’s website why a recommended practice was not adopted on their farm.

The health of the land, the health of the animals, and the health of the consumer are our top priority. If these are taken care of, the rest will fall in line. Producers will commit to understanding pasture management for their given eco-system.

Exceptions to Required Testing

Producers are excused from submitting milk samples during the dry season of animals defined as not milking, or during the low production season defined as the drying up process where milk is not being shared with consumers. During the drying up process if milk is being shared with consumers, SPC and Coliform tests are still required. Pathogen tests will not be required during the drying up or dry season if all pathogen tests for the year have been negative. One milk test per year may be excused due to unforeseen circumstances due to shipping problems if all pathogen tests for the year have been negative.)

Conditions for Revocation of RMAC Seal

After one positive **PATHOGEN** (any reportable disease) test, discontinue distribution of milk and notify all shareholders immediately. Restore to negative results for 3 consecutive tests within 2 weeks or discontinue use of seal.

If **SPC & Coliform** results exceed RMAC thresholds, retest within 2 days and send RMAC the results. Restore to threshold within 2 weeks or discontinue use of the seal.

If Coliform and SPC test results exceed double the thresholds after 3 consecutive tests, (>100 CFU/mL Coliform and/or >30,000 CFU/mL Standard Plate Count), notify shareholders and restore to threshold within 2 weeks or discontinue use of seal.

Accountability

1. **Accountability: Product Quality** - Test Administrator will monitor results, consult w/producer, assist as necessary, report to Board, update website with Seal of Excellence documentation.
 1. Producers report test results to shareholders on a monthly basis
 2. Herd Health test documentation (TB & Brucellosis) - to be verified on website by producer.
2. **Accountability: Process Quality**
 1. Educate producers and shareholders
 1. Shareholders
 1. What to look for in a dairy
 2. How herd health & process quality affects milk quality
 3. Safe Handling
 4. Website FAQ files
 2. Producers
 1. Best practices: Herd Health & Milk Safety
 2. Soil fertility management & tests
 3. Forage nutrients, selection & testing
 4. Blood tests for minerals
 2. Website Reporting & Documentation

1. Chart for Producer Practices, adherence to standards, qualifications for the seal.
2. Local feed sources
3. Resources (jars, test equipment, supplies)
4. Recommended reading list

Standards Committee

The RMAC Standards committee's mission is to adjust and clarify these standards, and submit recommendations to the Board. It is expected that these standards will require committee review and oversight throughout the coming year. All producers are encouraged to assist and provide feedback.

Goat Standard committee members:

- Jon & Joy Erickson
- Suzanne Erick
- Sharon Wilson
- Sharron Dougan
- Taneil Lawton
- Annie Cheney
- Margaret Hollander

Cow Standard committee members:

- Doug Wiley
- Dan James
- Keith Lafferty
- David Lynch
- Meg Cattell, DVM