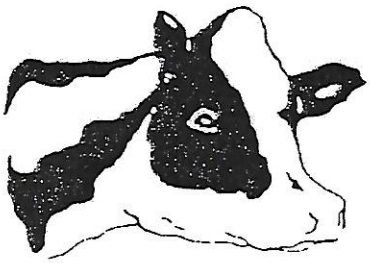


Milk & Dairy Beef
Quality
Assurance Program

MILK AND DAIRY BEEF RESIDUE PREVENTION PROTOCOL

A Program of
American Veterinary Medical Association
National Milk Producers Federation

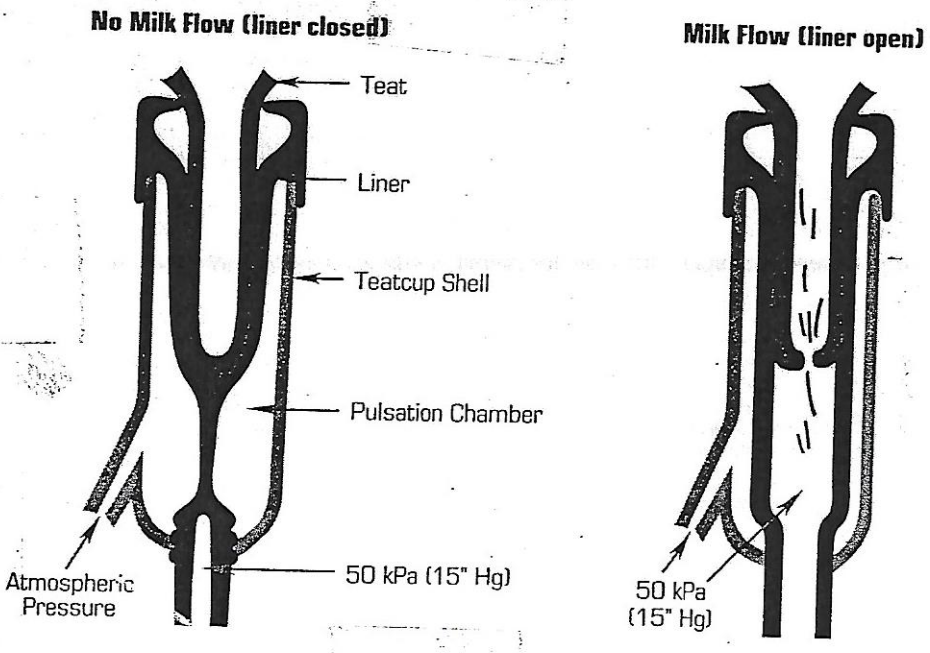
What are the ten critical control points?

1. Practice Healthy Herd Management
2. Establish A Valid Veterinarian/Client/Patient Relationship (VCPR)
3. Use Only FDA-Approved Over-The-Counter (OTC) Or Prescription (Rx) Drugs With a Veterinarian's Guidance
4. Make Sure All Drugs You Use Have Labels That Comply With State And/Or Federal Labeling Requirements
5. Store All Drugs Correctly
6. Administer All Drugs Properly And Identify All Treated Animals
7. Maintain And Use Proper Treatment Records On All Treated Animals
8. Use Drug Residue Screening Tests
9. Implement Employee/Family Awareness Of Proper Drug Use To Avoid Marketing Adulterated Products
10. Complete The Quality Assurance Checklist Annually

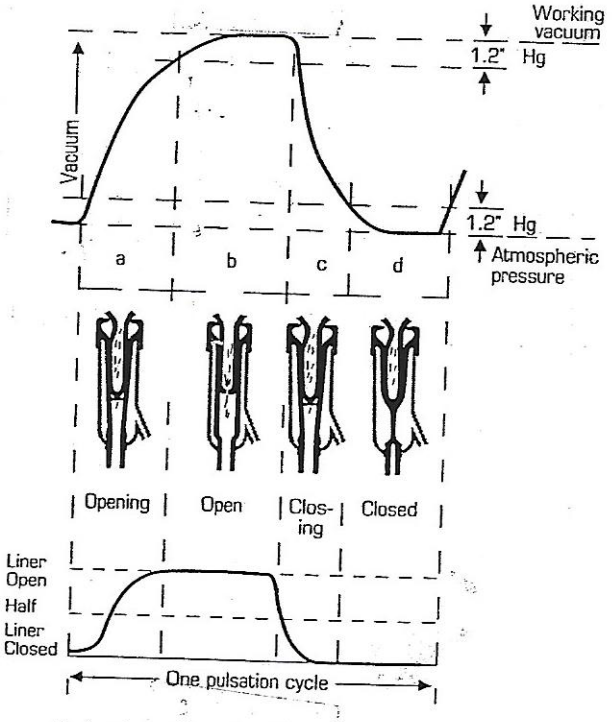
CCP #2

Establish a Valid Veterinarian/Client/ Patient Relationship (VCPR)

"An appropriate VCPR will exist when:
The veterinarian has assumed the responsibility for making medical judgments regarding the health of the animal(s) and the need for medical treatment, and the client (owner or caretaker) has agreed to follow the instructions of the veterinarian; and when there is sufficient knowledge of the animal(s) by the veterinarian to initiate at least a general or preliminary diagnosis of the medical condition of the animal(s). This means that the veterinarian has recently seen and is personally acquainted with the keeping and care of the animal(s) by virtue of an examination of the animal(s) and/or by medically appropriate and timely visits to the premises where the animal(s) are kept; and when the practicing veterinarian is readily available for follow-up in case of adverse reactions or failure of the regimen of therapy."



The Milking Action of the Conventional Teatcup



Pulsation Chamber Vacuum Record

22
9
11/1

DAIRY FARM INSPECTION REPORT
GEORGIA DEPARTMENT OF AGRICULTURE
CAPITOL SQUARE
ATLANTA, GEORGIA 30334

PERMIT NO. 2300 | DATE SUSPENDED | DATE RESTORED

COWS MILKING | DAILY PRODUCTIO[N] 341 | PLANT DI

NAME Charles E Wallace DVM | ADDRESS Crawford Oglethorpe

Sir: An inspection of your dairy farm has this day been made, and you are notified of the violations marked below with a cross (X). Violation of the same requirement on two successive inspections calls for permit suspension and/or court action.

COWS
Abnormal Milk:
Cows secreting abnormal milk milked last or in separate equipment ..... (a)
Abnormal milk properly handled and disposed of ..... (b)
Proper care of abnormal milk handling equipment ..... (c)

MILK BARN, STABLE, OR PARLOR
Construction:
Floors, gutters, and feed troughs of concrete or equally impervious materials; in good repair ..... (a)
Walls and ceilings smooth, painted or finished adequately; in good repair; ceiling dust-tight ..... (b)
Separate stalls or pens for horses, calves, and bulls ..... (c)
Adequate natural and/or artificial light; well distributed ..... (d)
Proper feed storage facilities ..... (e)
Properly ventilated; no overcrowding ..... (f)

Cleanliness:
Clean and free of litter ..... (a)
No swine or fowl ..... (b)

Cowyard:
Graded to drain; no pooled water or wastes ..... (a)
Cowyard clean; cattle housing areas properly maintained ..... (b)
No swine ..... (c)
Manure stored inaccessible to cows ..... (d)

MILKHOUSE OR ROOM
Construction and Facilities:

Floors
Smooth; concrete or other impervious material; in good repair ..... (a)
Graded to drain ..... (b)
Drains trapped, if connected to sanitary system ..... (c)

Walls and Ceilings
Approved material and finish ..... (a)
Good repair (windows, doors, and hose port included) ..... (b)

Lighting and Ventilation
Adequate natural and/or artificial light; properly distributed ..... (a)
Adequate ventilation ..... (b)
Doors and windows closed during dusty weather ..... (c)
Vents and lighting fixtures properly installed ..... (d)

Miscellaneous Requirements
Used for milkhouse operations only; sufficient size ..... (a)
No direct opening into living quarters or barn, except as permitted by Ordinance ..... (b)
Liquid wastes properly disposed of ..... (c)
Proper hose port where required ..... (d)
Acceptable surface under hose port ..... (e)
Suitable shelter for transport truck as required by Ordinance ..... (f)

MILKHOUSE OR ROOM- Continued
Cleaning Facilities
Two compartment wash and rinse vat of adequate size ..... (a)
Suitable water heating facilities ..... (b)
Water under pressure piped to milkhouse ..... (c)

6. Cleanliness:
Floors, walls, windows, tables, and similar non-product contact surfaces clean ..... (a)
No trash, unnecessary articles, animals or fowl ..... (b)

TOILET AND WATER SUPPLY
7. Toilet:
Provided; conveniently located ..... (a)
Constructed and operated according to Ordinance ..... (b)
No evidence of human wastes about premises ..... (c)
Toilet room in compliance with Ordinance ..... (d)

8. Water Supply
Constructed and operated according to Ordinance ..... (a)
Complies with bacteriological standards ..... (b)
No connection between safe and unsafe supplies; no improper submerged inlets ..... (c)

UTENSILS AND EQUIPMENT
9. Construction:
Smooth, impervious, nonabsorbent, safe materials; easily cleanable; seamless hooded pails ..... (a)
In good repair; accessible for inspection ..... (b)
Approved single service articles; not reused ..... (c)
Utensils and equipment of proper design ..... (d)
Approved CIP milk pipeline system ..... (e)

10. Cleaning:
Utensils and equipment clean ..... (a) X

11. Sanitization:
All multi-use containers and equipment subjected to approved sanitization process (see Ordinance) ..... (a) X

12. Storage:
All multi-use containers and equipment properly stored ..... (a)
Stored to assure complete drainage, where applicable ..... (b)
Single-service articles properly stored ..... (c)

13. Handling:
Sanitized milk contact surfaces not exposed to contamination ..... (a)

MILKING
14. Flanks, Udders, and Teats:
Milking done in barn, stable, or parlor ..... (a)
Brushing completed before milking begun ..... (b)
Flanks, bellies, udders, and tails of cows clean at time of milking; clipped when required ..... (c)
Udders and tests treated with sanitizing solution and dried, just prior to milking ..... (d)
No wet hand milking ..... (e)

15. Surcingles, Milk Stools and Anti-Kickers:

MILKING-Continued
Clean; stored above floor in clean place ..... (a)
Stools, easily cleanable construction and not padded ..... (b)

TRANSFER AND PROTECTION OF MILK
16. Protection from contamination:
No overcrowding ..... (a)
Product and CIP circuits separated ..... (b)
Improperly handled milk discarded ..... (c)
Immediate removal of milk ..... (d)
Milk and equipment properly protected ..... (e)
Air under pressure of proper quality ..... (f)
Cleaners and sanitizers properly identified ..... (g)
Drug administration equipment properly handled and stored ..... (h)
Antibiotics and medicinals properly used and stored ..... (i)

PERSONNEL
17. Hand-washing Facilities:
Proper hand-washing facilities in milk room and convenient to milking operations ..... (a)
Wash and rinse vats not used as hand-washing facilities ..... (b)

18. Personnel Cleanliness:
Hands washed clean and dried before milking, or performing milkhouse functions; rewashed when contaminated ..... (a)
Clean outer garments worn ..... (b)

COOLING
19. Cooling:
Milk cooled to 45°F. or less within 2 hours after milking except as permitted by Ordinance ..... (a)
Recirculated cooling water from safe source and properly protected; complies with bacteriological standards ..... (b)

VEHICLES
20. Vehicles:
Vehicles clean ..... (a)
Constructed so as to protect milk ..... (b)
No contaminating substances transported ..... (c)

INSECTS AND RODENTS
21. Insect and Rodent Control:
Fly breeding minimized by approved manure disposal methods (see Ordinance) ..... (a)
Manure packs properly maintained ..... (b)
All milkhouse openings effectively screened or otherwise protected; doors tight and self-closing; screen doors open outward ..... (c)
Milkhouse free of insects and rodents ..... (d)
Approved pesticides; used properly ..... (e)
Equipment and utensils not exposed to pesticide contamination ..... (f)
Surroundings neat and clean; free of harborages and breeding areas ..... (g)

REMARKS: 10+11) Milking claw in barn [illegible] not wash - claw was not placed in CIP unit

See reverse side for additional remarks | COMPLETE | DATE OF INSPECTION 11/2/9[illegible] | SANITARIAN'S SIGNATURE [illegible]

sed 2/90

8

FROM THE DAIRY DIVISION

Farm Inspection Report

Effective November 1, 1996, the Dairy Division will be using a new Dairy Farm Inspection Report. Below is a copy with the point values assigned.

Department of Health and Human Services
Public Health Service
Food and Drug Administration

DAIRY FARM INSPECTION REPORT

Inspecting Agency

NAME AND LOCATION OF DAIRY FARM

New –

Pasteurized Milk Ordinance

Plant

Permit No.

Inspection of your farm today showed violations existing in the items checked below. You are further notified that this inspection sheet serves as notification of the intent to suspend your permit if the violations now are not in compliance at the time of the next inspection. (See Sections 3 and 5 of the Grade A Pasteurized Milk Ordinance.)

COWS

1. Abnormal Milk :
Cows secreting abnormal milk milked last or in separate equipment ..... (a) 5
Abnormal milk properly handled and disposed of (b)
Proper care of abnormal milk handling equipment (c)

MILKING BARN, STABLE, OR PARLOR

2. Construction :
Floors, gutters, and feed troughs of concrete or equally impervious materials; in good repair .. (a) 1
Walls and ceilings smooth, painted or finished adequately; in good repair; ceiling dust-tight .. (b) 1
Separate stalls or pens for horses, calves, and bulls no overcrowding ..... (c) 1
Adequate natural and/or artificial light; well distributed ..... (d) 1
Properly ventilated; ..... (e) 1

3. Cleanliness :
Clean and free of litter ..... (a) 3
No swine or fowl ..... (b) 2

4. Cowyard :
Graded to drain; no pooled water or wastes .... (a)
Cowyard clean; cattle housing areas & manure packs properly maintained ..... (b) 3
No swine ..... (c)
Manure stored inaccessible to cows ..... (d)

MILKHOUSE OR ROOM

5. Construction and Facilities :
Floors
Smooth; concrete or other impervious material; in good repair ..... (a) 1
Graded to drain ..... (b)
Drains trapped, if connected to sanitary system . (c)

Walls and Ceilings
Approved material and finish ..... (a) 1
Good repair (windows, doors, and bosepert included) ..... (b)

Lighting and Ventilation
Adequate natural and/or artificial light; properly distributed ..... (a)
Adequate ventilation ..... (b) 2
Doors and windows closed during dusty weather . (c) 2
Vents and lighting fixtures properly installed ... (d)

Miscellaneous Requirements
Used for milkhouse operations only; sufficient size ..... (a)
No direct opening into living quarters or barn, except as permitted by *Ordinance* ..... (b) 2
Liquid wastes properly disposed of ..... (c) 2
Proper bosepert where required ..... (d) 2
Acceptable surface under bosepert ..... (e)
Suitable shelter for transport truck as required by this *Ordinance* ..... (f)

Cleaning Facilities
Two-compartment wash and rinse vat of adequate size ..... (a) 2
Suitable water heating facilities ..... (b) 2
Water under pressure piped to milkhouse ..... (c)

6. Cleanliness :
Floors, walls, windows, tables, and similar non-product contact surfaces clean ..... (a) 4
No trash, unnecessary articles, animals or fowl .. (b)

TOILET AND WATER SUPPLY

7. Toilet :
Provided; conveniently located ..... (a)
Constructed and operated according to *Ordinance* (b) 4
No evidence of human wastes about premises ... (c)
Toilet room in compliance with *Ordinance* .... (d)

8. Water Supply :
Constructed and operated according to *Ordinance* (a) 5
Complies with bacteriological standards ..... (b) OK
No connection between safe and unsafe supplies; no improper submerged inlets; ..... (c) 2

UTENSILS AND EQUIPMENT

9. Construction :
Smooth, impervious, nonabsorbent, safe materials; easily cleanable; seamless hooded pails ..... (a)
In good repair; accessible for inspection ..... (b)
Approved single-service articles; not reused .... (c) 4
Utensils and equipment of proper design ..... (d)
Approved CIP milk pipeline system ..... (e)

10. Cleaning :
Utensils and equipment clean ..... (a) 5

11. Sanitization :
All multi-use containers and equipment subjected to approved sanitization process (See *Ordinance*) (a) 5

12. Storage :
All multi-use containers and equipment properly stored ..... (a)
Stored to assure complete drainage, where applicable ..... (b) 2
Single-service articles properly stored ..... (c)

MILKING

13. Flanks, Udders, and Teats :
Milking done in barn, stable, or parlor ..... (a)
Brushing completed before milking begun .... (b)
Flanks, bellies, udders, and tails of cows clean at time of milking; dipped when required ..... (c) 5
Teats treated with sanitizing solution and dried, just prior to milking ..... (d)
No wet hand milking ..... (e)

TRANSFER AND PROTECTION OF MILK

14. Protection From Contamination :
No overcrowding ..... (a)
Product and CIP circuits separated ..... (b)
Improperly handled milk discarded ..... (c)
Immediate removal of milk ..... (d) 3
Milk and equipment properly protected ..... (e)
Sanitized milk surfaces not exposed to contamination ..... (f)
Air under pressure of proper quality ..... (g)

15. Drug and Chemical Control
Cleaners and sanitizers properly identified .... * (a) 2
Drug administration equipment properly handled and stored ..... (b) 2
Drugs properly labeled (name and address) and stored ..... (c) 2
Drugs properly labeled (directing for use, cautionary statements, active ingredient) .... (d) 7
Drugs properly used and stored to preclude contaminating of milk ..... (e) 7
* MAX OF 7 *

PERSONNEL

16. Hand-Washing Facilities :
Proper hand-washing facilities convenient to milking operations ..... (a) 2
Wash and rinse vats not used as hand-washing facilities ..... (b)

17. Personnel Cleanliness :
Hands washed clean and dried before milking, or performing milk house functions; rewashed when contaminated ..... (a) 1
Clean outer garments worn ..... (b)

COOLING

18. Cooling :
Milk cooled to 45 F or less within 2 hours after milking, except as permitted by *Ordinance* .. (a) 5
Recirculated cooling water from safe source and properly processed; complies with bacteriological standards ..... (b)

PEST CONTROL

19. Insect and Rodent Control :
Fly breeding minimized by approved manure disposal methods (See *Ordinance*) ..... (a) 3
Manure packs properly maintained ..... (b)
All milkhouse openings effectively screened or otherwise protected; doors tight and self-closing; screen doors open outward ..... (c) 2
Milkhouse free of insects and rodents ..... (d)
Approved pesticides; used properly ..... (e)
Equipment and utensils not exposed to pesticide contamination ..... (f) 2
Surroundings neat and clean; free of harborages and breeding areas ..... (g) 2
Feed storage not attraction for birds, rodents or insects ..... (h)

REMARKS:

P. O. BOX 1907
LEWISBURG, TN. 37091

MEMBER NUMBER	DATE COLL	TEMP WHEN TAKEN	DATE PLATED	STANDARD PLATE COUNT / PLC	TYPE BACT	CODE	PI COUNT	CODE	FREEZE POINT	CODE	ANTIBIOTICS	CODE	LEUCOCYTE COUNT	CODE	SED	CODE
002300	11/03	38	11/04	4,800		OF	10,000	OF	.540	OF	NZ	OF	390,000C	OF		

REMARKS:

11 DOZIER PAGE 35

PRODUCER
002300 A-1 0034
CHARLES E WALLACE, DVM
ROUTE 1
COMER LEXINGTON ROAD
CRAWFORD GA 30630

CODE LEGEND

O - Official test results
W1 - First warning (1 out of 4 official counts high)
W2 - Second warning (2 out of 4 official counts high)
W3 - Withholding or Suspension (3 out of 5 official counts high)
RO - Official Recheck
RW - Reinstatement after suspension
U - Unofficial Recheck
A - Accelerated sampling after reinstatement
S - State regulatory count
E - Estimated count
C - Confirmed by official method (for all confirmed somatic cell counts only)

LABORATORY REPORT 2

PLEASE READ REVERSE SIDE

Quality Report -Dates shown are sample collection date and date plated

Standard Plate Count -Bacteria count of your sample. (Maximum allowable under state law 100,000 per ml.)

Type Bact -Type bacteria in your milk sample
D - Diplococcus - indicates improper cooling
B - Bacillus - unclean equipment, wet milking, dirty vacuum line
S - Streptococcus - mastitis causing bacteria

P.I. Count -Preliminary incubation - identifies the type bacteria that have the ability to grow at refrigeration temperatures. These bacteria are common every where in nature (air, water, dust, manure, farm ponds). Maximum allowable count: 100,000 per ml.)

Freeze Point -Freezing point of the milk violation above - 0.530°C. (i.e. - 0.528°C = violation). Do not dip inflations between milkings; do not wash off outside of bulk tank with a hose while milk is in tank; do not rinse pipeline into tank at end of milking.

Antibiotics -Antibiotics or other inhibitors - illegal in milk. Positive results - immediate withholding for violation.

Leucocyte Count -or Somatic Cell Count - indication of infection and reduced milk production. Violation if greater than 1,000,000 per ml.

Leucocyte Count	Remarks
0 - 250,000 Per ML	Few problems. Good Herd Health up to 3% lost milk production.
250,000 - 500,000 Per ML	Loss of 5 - 8% of milk production.
500,000- Per	Poor management practices. Malfunctioning milking equipment. Loss of 8 - 15% milk production.
over 1,000,000 per ml	Poor management practices. Violation!! Subject to being degraded by State regulatory. Loss of at least 15 - 20% of milk production!

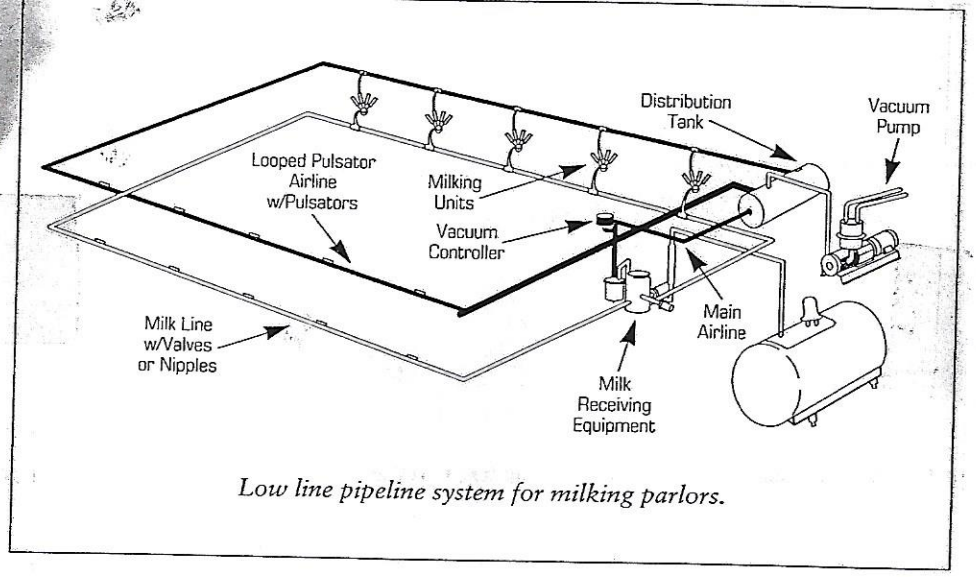
Sed - Sediment - Visible and invisible sediment in milk due to improper cleaning cows' teats prior to milking or wet milking.

#1	Acceptable
#2	Acceptable
#3	Questionable
#4	Violation subject to withholding. Dust, dirt, manure, garget, insects, etc.

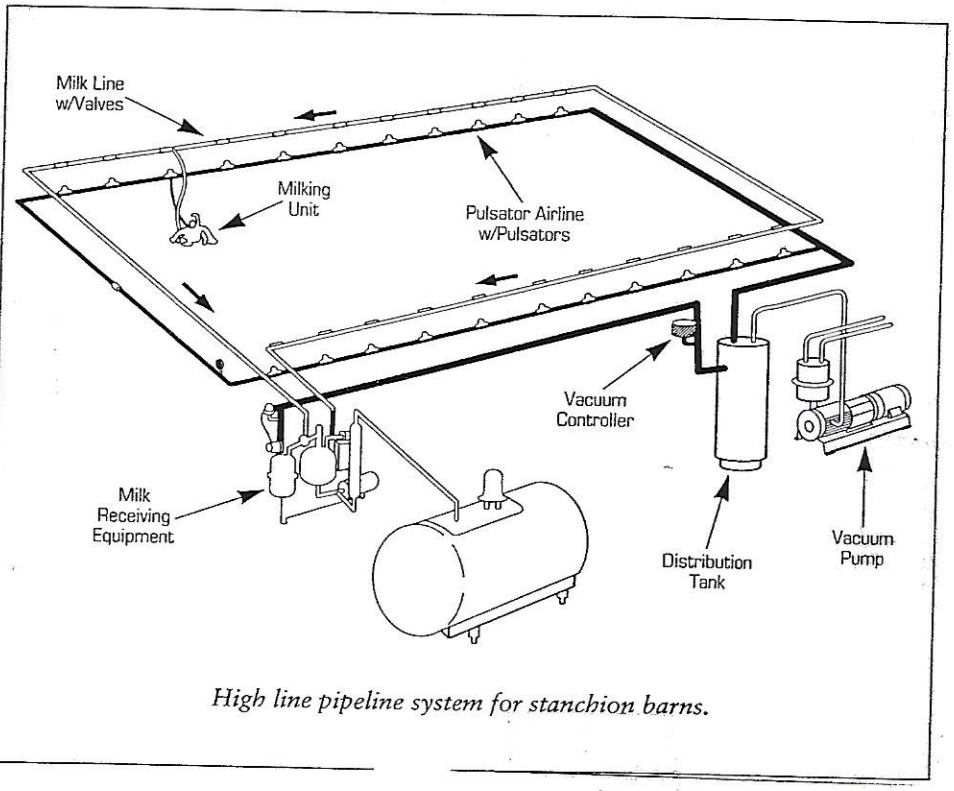
Remarks Section: Will indicate if any quality tests are not acceptable.

Also

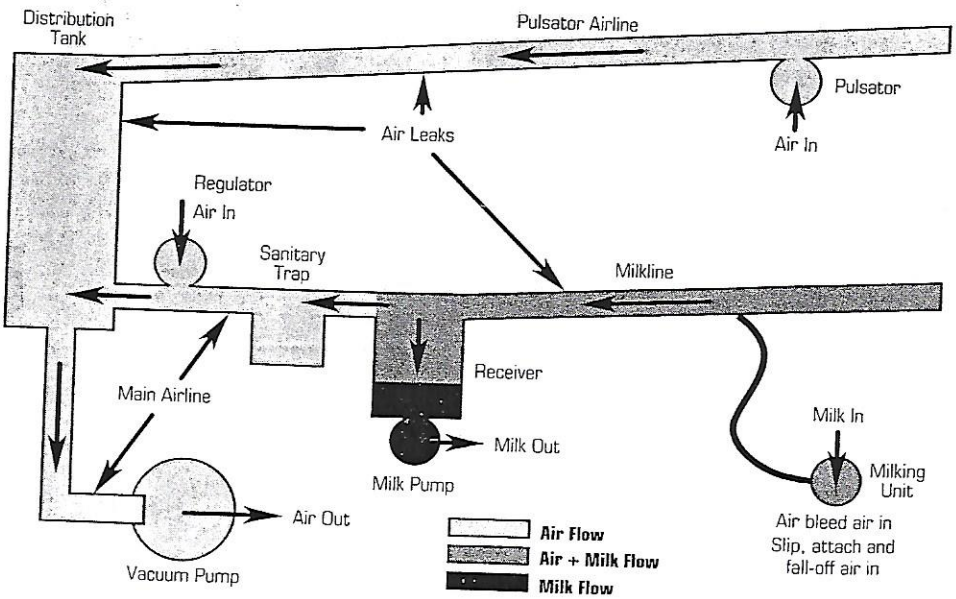
Lab Pasteurized Count - If your L.P. is greater than 500 per ml LP Count will be printed in the remarks. This is considered a violation. LP Counts greater than 1000 per ml are considered a serious violation. Lab Pasteurized counts indicate the bacteria that survive pasteurization and have the ability to grow in cold milk causing off odors and flavors in the finished product. Check your cleaning and sanitizing of milking equipment, teats prior to milking, bulk tank and pipeline.



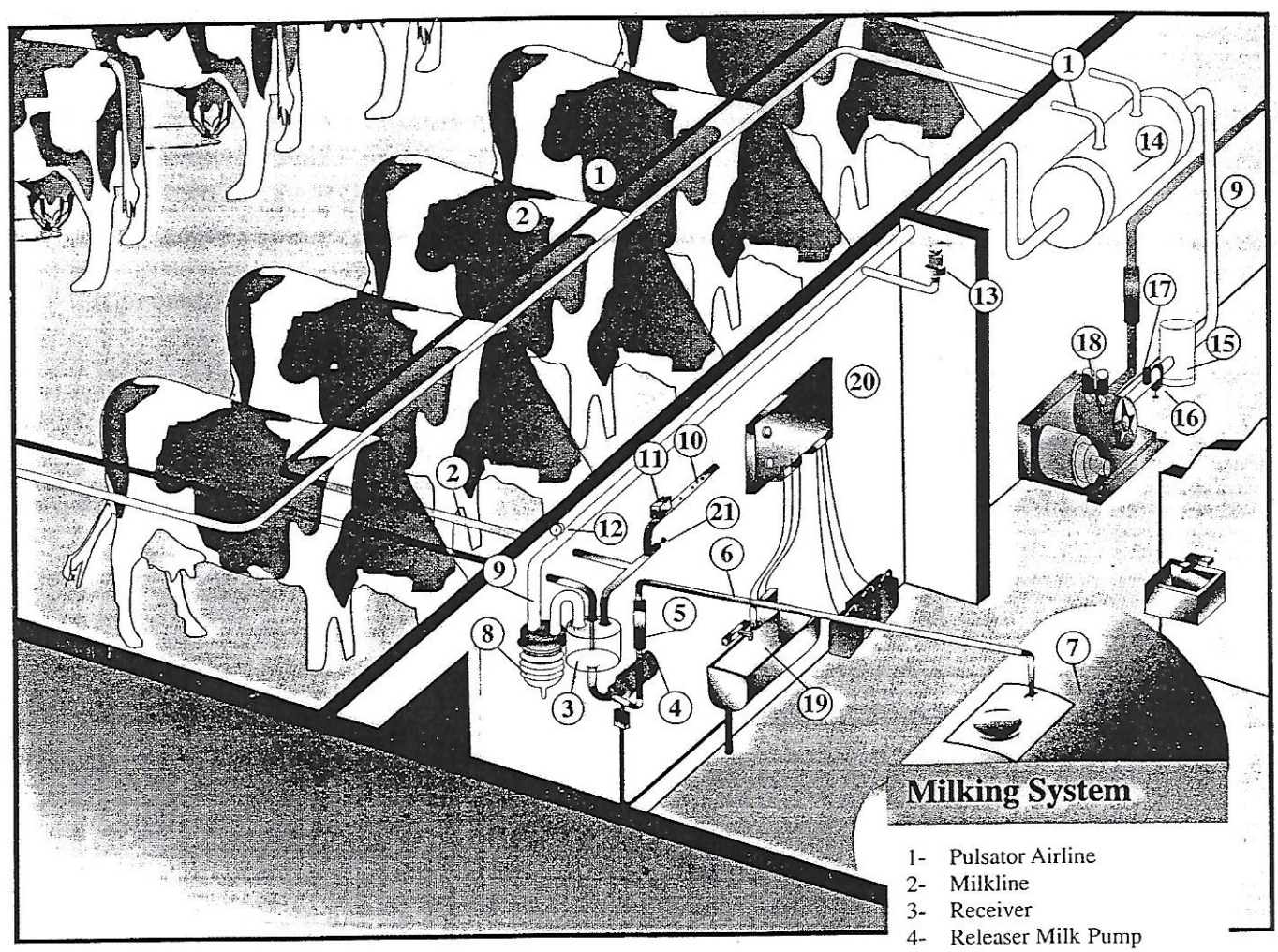
Low line pipeline system for milking parlors.



High line pipeline system for stanchion barns.

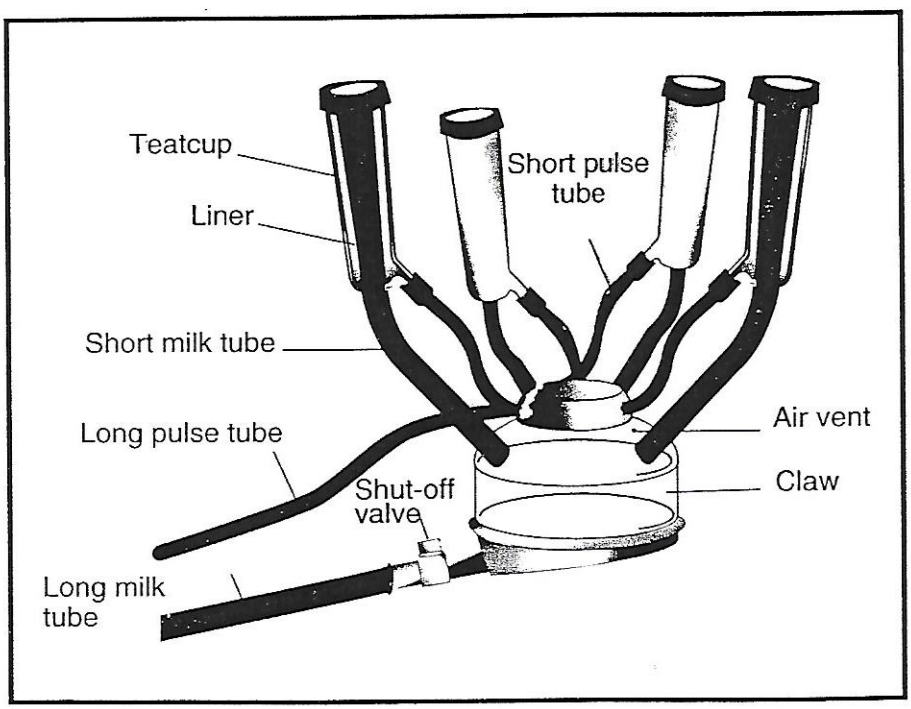


Pipeline System Flow Map



Milking System

1- Pulsator Airline
2- Milkline
3- Receiver
4- Releaser Milk Pump
5- Milk Filter
6- Delivery Line (transfer line)
7- Bulk Milk Tank
8- Sanitary Trap
9- Main Airline
10- Washline
11- Air Injector
12- Vacuum Gauge
13- Regulator (controller)
14- Distribution tank with drain valve
15- Interceptor (air filter)
16- Shut-off Valve
17- Relief Valve
18- Vacuum Pump
19- Wash Sink
20- Automatic Washer
21- Diverter Valve



Controlling mastitis in your herd depends upon identifying all the *Staph. aureus* infected cows and using proper methods to prevent the milk from these cows from contacting the teats of clean cows in the herd.

The goal of milking hygiene is to milk a clean, dry udder with clean, properly maintained milking machinery efficiently and completely. "Completely" means that milkers must allow cows to make maximum use of the natural milk letdown reflex.

1.Maintain healthy teat-end tissue by considering the following:

- Use proper vacuum level.
- Use a proper pulsation rate.
- Milk for an appropriate length of time.
- Promptly remove teat cups.
- Position machine units to prevent liner slips that can cause impacts.

2. Avoid causing new infections during treatment.

Because the teat duct is the primary barrier to infection, great care must be taken to maintain normal tissue architecture during milking and when administering intramammary infusion products.

When treating udders with a syringe, insert the cannula only 2-3 mm into the teat duct. Tests show that this approach can lessen new infections by 50%.

3. Milk dry udders only.

When cows with wet udders are milked, dirty water can gather at the mouthpiece of the liner. Then, this water is periodically sucked into the liner and can be propelled into the udder--carrying environmental pathogens with it.

4. Provide an environment that is clean, dry and unlikely to injure teats.

5. Reduce temperature and humidity extremes.

6. Provide good nutrition.

7. Prevent stray voltage.

Guidelines for Disinfecting Milking Units After Milking Positive or Suspect Cows

Disinfectant Solutions:

Add 2 1/2 tablespoons of liquid chlorine bleach (5.25% sodium hypochloride) to a 5-gallon bucket of cold or lukewarm water to get a 100 parts per million (ppm) solution. Fifty ppm of available iodine may also be used, again with cold or lukewarm water. The disinfectant solution should be good for up to twenty cows.

Efficiency of disinfection can be tested by culturing inflation liners. Milk *Staph. aureus*-infected cows, take a swab of liners, perform disinfection procedure, then take another swab of the liners. If disinfection is effective, liners that test positive for *Staph. aureus* before disinfection are negative afterward.

Bucket Dipping

Remove the long milk tube from the milk pipeline and open the valve in the long milk tube to prevent an airlock in the unit. Flush the unit well with clear water (cold or hot) using a spray nozzle on a hose. Insert the nozzle into one inflation and flush until water from the other three inflations runs clear.

Then, immerse the entire milking unit in the disinfectant solution for thirty to sixty seconds. Remove and flush the unit with spray nozzle as before with clean water before use.

Manual Backflushing

With the vaccum off, flush the unit well with disinfectant solution (cool or warm water not above 100 degrees F). Flush with hose through one inflation until the solution runs clear from the other three inflations. The disinfectant solution coming from the hose should contain 100 ppm of chlorine or at least 40 ppm of available iodine. Injector systems are commercially available; see your equipment dealer for details and installation instructions.

Automatic Backflushing

Disinfectant solution should be delivered through the long milk hose at the same concentrations used for manual backflushing. Hot water (above 150 degrees F) may also be used. Consult your milking equipment dealer for details and installation instructions.

For More Information

Contact ProScience Corporation's Technical Services Department at (800) 658-8868.