

Food Safety Plan

**RAMP- Risk Analysis & Management Program
For California Raw Milk Dairies**



*A food safety plan for a living food where
active immunity is the “kill step”*

**Organic Pastures Dairy Company LLC
7221 So. Jameson Fresno CA 93706
1-877 RAW MILK**

www.organicpastures.com

Developed By: Mark McAfee, Dr. Ron Hull and Dr. Ted Beals



Food Safety Plan

Table of Contents:

- 1. FSP Introduction and overview***
 - a. Environmental Management***
 - b. Herd health husbandry***
 - c. Milking***
 - d. On Farm Creamery***
 - e. Storage and Distribution***
- 2. Food Safety Plan – Flowchart***
 - a. Pathogen testing data record***
 - b. Reference data Appendix N***
 - c. Historic testing data***
- 3. OPDC FSP Team***
- 4. Supportive Data***



Food Safety Plan

Risk Analysis & Management Program (HACCP) for production of Raw Milk products

Organic Pastures Dairy Company was founded in 2000 by the McAfee Brothers when it was discovered that the consumers of California did not have access to pasture grazed living fresh raw milk. The business objectives have always held as their core value the careful listening to consumers' needs and desires. As a result, OPDC brought forth a full line of fresh raw milk products. These living food products are now sold in 300 California stores and are consumed weekly by more than 35,000 delighted consumers.

Our food safety plan is driven from this core belief in consumer health and wellness. Our plan is called RAMP and is based on HACCP and the principles of comprehensive RAMP of those potential risks. In cooperation with natural biodiversity and it's built in bacterial competition systems, RAMP manages and reduces raw milk risk dramatically and reliably.

OPDC owners, managers and employees hold food safety as the highest priority.

The CA Raw Milk RAMP plan is different from other conventional HACCP plans and contains a continuous persistent active immunity "Kill Step". Raw milk is a unique living food and differs from all other foods. Raw milk innately contains many different enzyme, and bacteriologic (organic acids and others) systems that actively kill pathogens when and if they are introduced. These immunologic systems, enzymes, specialized proteins and pro-biotic bacteria are not injured or reduced by RAMP but instead they are relied upon as an integral part of our food safety system. The RAMP system protects these living protective immunologic systems from harm. Harsh sterilizers, heat and sanitizers can damage raw milk and injure enzymes and bacteria and increase potential food safety risk.

Most HACCP plans include a processing induced "Kill Step" (such as pasteurization) to kill bacteria and potential pathogens. RAMP uses both the innate pathogen killing systems (active immunity) in raw milk and the advancements in pathogen detection technology. Through testing the



possible entry points of contamination, a dramatic reduction of the possibility of initial introduction of food born illness pathogens or other contaminants can be achieved.

As a result of RAMP, safe raw milk food products are alive with immune system rebuilding components that have positive effects on the humans that consume them. Pasteurized and processed products with an active external "Kill Step" can not impart these living immune system rebuilding values to its consumer. Pasteurized milk and dairy products have lost their innate active immunity and completely different standards and controls must be applied.

Lastly, consumer immunologic improvement is the final invisible, unmeasured component in this food safety plan when viewed in total. Consumer immunity inclusion is part of RAMP and breaks new ground in overall food safety for California raw milk. Previous HACCP plans continuously degrade food biodiversity by adding "Kill Steps". These sterilized or over-sanitized foods often decrease the immune health benefit to the final consumer, further weakening the consumer and making consumers more susceptible to food born disease. RAMP allows foods with active immunity to become a natural part of California's consumers' diets for those that choose this food.

As part of this approach certain families of bacteria including Coliforms that may appear "not helpful" in other HACCP plans become essential to the vital biodiversity that inhibit pathogens in Raw Milk.

RAMP includes five major areas of management:

- 1. Environmental Management**
- 2. Herd health husbandry**
- 3. Milking**
- 4. On Farm Creamery**
- 5. Storage and Distribution**

The objective of the Organic Pastures, Farm Safety Plan is to create an environment in which:

High quality safe raw milk is assured to a high degree of certainty;

Elevate the public perception of raw dairy farming as the premier system for milk quality and safety;



All food chain and production risks are analysed and managed on a continuing basis;

Environmental stewardship and animal welfare are managed as high priorities:

Actual standards on the farm are monitored, documented and strengthened.

This document sets out the standards of milk quality and farm management that we expect to achieve. The standards are guidelines and are designed to encourage high quality throughout the production process and to give our customers and consumers' confidence that Organic Pastures products follow good farming and production practices. These standards are not intended to prevent innovation. Other systems may be used where it can be demonstrated that better practices can be utilized.



ENVIRONMENTAL MANAGEMENT

All pens shall be kept Clean and all pastures shall be kept Green.

Measures will be taken to assure that cows are healthy and not stressed.

When pastures have been grazed the cows are moved to new pastures and the consumed pastures are irrigated to regrow, revitalize forage and grass.

Fencing around paddocks, tracks and yards should be in a good state of repair to secure stock control.

Pastures should be maintained and grazed in such a way that they provide adequate and safe nutrition to the herd. Where possible noxious weeds should be controlled in the pasture. Pasture should be free from chemical residues.

Stock water must be adequate, clean, fresh and of high quality. Free of excessive salts, Algae, Dung, pathogens etc.

Water must be available in adequate amount to avoid any competition for water during hot periods.

Adequate shade must be provided during times of heat stress.

Assess and ensure that your property is free of persistent chemicals.

Any risk sites should be fenced off from livestock.

Grazing of dairy stock should only occur where past history of chemical usage is known and all relevant withholding periods have been adhered to.

Any muddy areas are to be fenced off to exclude animals until the areas are revitalized.

All confinement pens will be kept clean and scraped to avoid muddy areas or waste build up.



HERD HEALTH HUSBANDRY

A designated person must have overall responsibility for the herd. This person must be able to manage the herd and associated dairy farm activities.

The designated person has a duty to ensure that all staff with responsibility for cows have knowledge of and assure the five freedoms of animal welfare. The five freedoms are:

- Freedom from hunger, thirst and malnutrition
- Freedom from discomfort
- Freedom from pain injury and disease
- Freedom from fear or distress
- Freedom to express most normal patterns of behaviour

Stock handlers should be able to demonstrate the ability to:

Recognise normal animal behaviour and good health in cattle as opposed to those showing abnormal behaviour, fear or poor health.

Recognise symptoms of common illnesses and/or diseases.

Recognise the times and circumstances in which cattle may be particularly prone to welfare problems.

Handle cattle in a compassionate and in a humane manner, and take necessary steps to avoid potential problems should they arise.

Stock handlers should be aware of the dangers of diseases that can be transmitted from animals to humans. Some diseases have the potential to be transferred via milk. Specific areas to consider are:

- Control of Rodents and birds
- Vaccinations
- General hygiene standards

Stock handlers must observe and have knowledge of the regulations concerning the transport and/or slaughter on-farm of casualty animals, good welfare practice, health and safety and control of pollution.



Contingency Procedures

In the event of an emergency or failure, the appropriate chain of command should be contacted. Example: Dairy Manager is called first. He then calls the Operations Manager who calls the on-call vendor for services, etc. A list of the contacts for the chain of command is posted in the milk barn and creamery.

The following records, appropriate to farm assurance, must be maintained:

A clear record of any incidents which could affect milk quality or farm safety. For example, tank breakdowns, chiller breakdowns, chemical contamination of milk.

Cow health records, including cases of clinical mastitis, to be kept for at least 12 months.

Details of all medicines used, records to be kept for at least 3 years including:

- Identity of animals treated and reason for treatment.
- Reason for treatment.
- Treatment date.
- Name of the medicine used.
- Dosage administered.
- Withholding period/date milk suitable for sale again.

Permanent stock identification systems should be in place.

Records of all feed deliveries, including labels and warranties, to be kept at least 2 years.

PERMANENT IDENTIFICATION OF STOCK

GOOD PRACTICE

1. Permanently identify all stock



2. Purchased stock should be identified as they arrive on the property. Check withholding periods to be observed following any chemical treatments. Check disease status.
3. Permanently identify all calves at birth.
4. Maintain a register of all individual stock ID numbers
5. Record all details on purchased stock and their grazing, disease and chemical treatment history.
6. Cows are tested for TB once a year. Any cows purchased from out of state will be tested TB free before being shipped to OPDC.
7. The purchased stock are free from residues and withholding periods of veterinary chemicals have been observed.

Water

1. Organic Pastures encourages the efficient use of water. Understanding the water needs of soils or pastures, and controlling how much water, where and when it is applied, are fundamental principles of good management.

SALINITY

The effects of salinity are far-reaching. Not only does it lead to a reduction in the productivity capacity of affected land, but also to degradation of the environment and wildlife habitats, loss of water quality for household supplies and damage to household equipment.

MANAGING SALINITY

The main salinity control options for farmers focus on lowering the watertable. This is achieved by using water productively where it falls. No one option is sufficient - rather a carefully planned and integrated management approach that considers all of the issues in the local catchment is needed.

Salinity control options include:

- Property management plans
- Monitoring soil and water salinity
- Planting deep rooted, high water using trees and plants
- Planting salt tolerant species
- Fencing out livestock
- Removing sub-surface water
- Monitoring watertable
- Improving irrigation technology



- Irrigation scheduling
- Drainage reuse systems
- Laser grading of irrigation bays
- Quicker watering

EFFLUENT DISPOSAL

No solid or liquid waste from any intensive animal industry or milking shed operation shall be disposed of (irrigated or spread) in the following locations:

All on farm wastes will be disposed of on the farm through the flood irrigation system as allowed by law.

All waste milk will be managed through irrigation systems.

FEED AND CALVING PADS

Cows live and calve on clean, green pastures. No loafing stalls are required.

Shade may be required in hot conditions with sprinkler systems to cool the animals.

Calves are to be managed and cared for with special attention to their needs.

Bedding must be changed regularly to reduce moisture and assure clean environment.

Hutches shall be moved frequently to new areas to allow sun shine to kill pathogens and dry the hutch areas.

All hay storage areas shall be dry and clean. No moldy hay shall be fed to cows.

MILKING

Location

The OPDC Mobile Milk Barn shall be moved weekly to reduce manure accumulation and wet conditions and pasture degradation.

The dairy shall be ideally sited to minimise the risk of flooding, objectionable smells, smoke, dust and other contaminants.

Only activities relating to the handling of milk and milking equipment may be carried out in the dairy.



Access and milk collection

Farm animals shall not have access to the tanker road and tanker roads shall not be used for the holding of animals.

Equipment that has any moving belts, pulleys or shafts should be covered with safety guards. If these are removed for maintenance they must be replaced before use.

The dairy shall be sited separately from contamination sources e.g. animal housing, dung heaps, slurry pits, silage pits, feed and grain stores, diesel stores, etc. It must be well managed and kept clean and tidy, free of rubbish and generally in a good state of repair.

Due care must be taken to avoid contamination of milk by chemicals, inappropriate feeding, unhygienic practices or foreign bodies. Cleaning chemicals should be stored in a separate room away from milking areas if possible.

Measures must be taken to minimise the entry of birds and vermin and to control flies.

The dairy should have adequate ventilation and be designed for ease of cleaning with walls being smooth, impervious, sound and well maintained. This includes:

- Ceilings and walls intact and free of flaking, paint, dust and cobwebs.

- Lighting in the milk room with a switch easily accessible to the tanker driver.

- A sound floor that allows free draining of liquids and easy disposal of waste.

- Preferably suitable hand washing facilities including hot and cold running water and paper towels for drying.

- Suitable vat washing facilities so tanks are kept clean both internally and externally.

No smoking in the dairy during milking.

Protective clothing used at milking times should be clean and used only for milking.

Milking must be carried out hygienically. The milker must wash hands immediately before milking and as often as necessary during milking.

A water hose must be available for the personal hygiene of the milking operator and the washing down of soiled cows, equipment and standings

The pit and milking area must have good drainage to allow ready cleaning.



Water supplied to the parlour should be of sufficient quantity and of drinking water standard.

External surfaces of pipe work, sight glasses, clusters and jettors must be kept clean.

There must be appropriate procedures in place for the cleaning of milk pipelines, clusters, sight glasses and jettors. Cleaning must take place after each milking.

Milking machines should be regularly serviced and tested at least annually by a qualified person.

Liners should be regularly inspected and, as a minimum, replaced at the intervals recommended by the supplier.

Persons with infectious diseases or undressed wounds may be liable to contaminate raw milk. **They must not handle raw milk.**

The water heater should be regularly maintained and suitable for the purpose. It must be able to deliver water to wash the plant with minimum 185 degrees F.

Cow's udders should be clean and dry before milking.

Teats will be pre dipped with iodine, stripped and then cleaned with separate dry cloths.

At least 30 seconds will be allowed for teat stimulation for milk let down.

Milk parlour standing areas will be kept clean by washing down prior to machines being placed on cows.

Udders will be kept dry and no wash water shall be applied to udders except when udders are exceptionally soiled. In these cases they are to be dried thoroughly prior to machine application.

Cloths shall be single use and kept in dry clean area.

Milk from the first 8 milkings after calving must be withheld from the tank and used as colostrum.

Cows whose milk is unfit for human consumption, must be clearly identified and must be milked last or with a separate bucket system and that milk discarded.

To ensure all dairy personnel are personally motivated to following the steps outlined above, thereby dramatically reducing the risk of pathogens in the raw milk they collect, we are giving them a bonus if they hit the critical goal of the RAMP: no recalls and no pathogens. The bonus is \$1,200 per year, per full time dairy employee. This is paid quarterly, IF the following criteria are met:



Zero pathogens detected in any dairy product
Zero degradates of any dairy product
Zero recalls of any dairy product

MILKING PARLOR

The same structural and cleanliness standards for walls, ceilings, drainage, ventilation and lighting apply to the milking parlour as for the creamery.

The milk barn must have non slip floors and be designed and constructed to minimise risk of injury to cows and ease of cow flow with comfortable positioning.

The milk barn shall have sufficient lighting to allow for easy identification of animals and good visibility during milking. The dairy should be designed to enhance free and contented cow flow.

Collection yards should be regularly cleaned and kept free from any accumulations of muck or slurry.

Parlour railings and feeders should be sound and in a good state of repair, The parlour must be separate from contamination sources.

All CIP and chiller milk temps shall be recorded on recording chart recorders.

MILK COOLING AND REFRIGERATION

Cooling Units – Silo Tanks

Milk immediately after leaving the cow shall be chilled to less than 40 degrees F within 1 minute and kept at or below that temperature and until delivered to the final consumer or retailer storage area.

Silo room doors shall be of standard door height with steps and hand rails are to be provided where appropriate to allow safe access.

Tank rooms are not to be used for the storage of colostrum in drums. Any colostrum in holding tanks should be clearly labelled and separate from raw milk.

The top of tanks must be clear of any items and are not to be used as a storage place.



Tank lids are to be closed.

All stainless steel is to be kept clean and polished inside and outside.

All the necessary signage to meet the confined spaces legislation must be displayed.

Wash cycles need to be performed within a half hour time frame.

Ideally a sampling cock will be present in the manhole door to allow access for sampling. This sample cock must be readily cleaned.

ON FARM CREAMERY

Actions

All cleaning is documented clearly on a recording chart. Regular inspections of the milk contact surfaces should be carried out to check thoroughness of cleaning.

Plants should be cleaned after each processing step. All milk detergent residue and sanitiser should be removed except for designated food contact surface sanitisers.

All plant surfaces shall be checked using ATP systems or visual methods to assure cleanliness.

Recommended CIP – COP Cleaning Procedure

1. Rinse with cold water (40 deg F) to rinse milk out milk from the line until return water is clear and has no milky color
2. Wash line with hot water (160-180 deg F) plus soap detergent for at least 15 minutes
3. Rinse with cold water (40 deg F) plus acid sanitizer for at least 15 minutes
4. Open valve (while covering the opening loosely) and let all water drip dry

Safety

Use a separate cup to measure out each product as the products may react with each other and result in them being neutralised or lead to injury.



Carefully follow label directions for all cleaning chemicals.

Note carefully whether chemicals are to be added to water or water to chemicals.

Do not mix chemicals unless following label directions.

Storage of these chemicals must be in a separate lockable area.

All processing surfaces will be cleaned and routinely tested using ATP

Drains and floors will be tested for listeria routinely.

CHEMICALS

All cleaning, disinfecting and vermin control products must be suitable for the food industry and be used in such a way that they do not contaminate the milk. All chemicals must be NOP compliant and no use of QUAT Ammonias allowed.

Use farm chemicals only when necessary, and as far as practicable as part of an integrated pest management program.

Only daily supplies of stock of chemicals for daily use should be kept within the dairy.

Always read the label. Chemicals must be used according to the manufacturer's instructions and not be decanted from their original containers except for immediate use.

Chemicals should be stored in their original containers in a separate, specified area, preferably locked.

All rodent traps shall be checked and cleaned out daily.

HAZARDOUS SUBSTANCES

Farmers have a responsibility to ensure that their work activities do not put at risk the health of others such as family and the public.

Keep a register of hazardous substances in MSDS binder.

Label them accordingly.



Assess and control the risk to health.

Aim to minimise use where possible.

Aim to store the minimum quantity

STORAGE AND DISTRIBUTION

OPDC operates delivery trucks and those trucks must be safe, clean well maintained, cold and reliable.

Returned dairy products will be counted and disposed of according to appropriate end use.

All trucks when returning from delivery will be washed out and cleaned.

All plastic cases will be unloaded and washed and set to dry for use in the creamery.

Trucks will be checked for maintenance before allowed to return to service.

All loads will be secured for weight and balance prior to departure.

All available plastic cases will be gathered when out on routes.

All truck drivers will report any mechanical issues to management for repair.

If cold chain is not kept at less than 40 degrees F contact management immediately.

Prior to release to the road all drivers will complete the pre-trip check list to assure safety.

Drivers to assure that all paperwork is included on the truck prior to leaving creamery or on route.

Food safety plan for Raw Market Milks - A living food with inbuilt immunity to pathogens

Step/process	management	Tests description	Tests by	Records C of A	CP/ CCP	Certification	Audit
Dairy farm							
Environmental management - biological control of pathogens							
Pasture & Feeds	GMP	Visual	in house			DFM	
Manure/ Effluent	GMP	Visual	in house			DFM	
Herd Management to eliminate pathogens from cow manure/ milk							
Disease free checks							
Zoonoses free							
	TB, Brucellosis		C DFA / DHS	annual		DFM	CCP 1
Antibiotics	Cull/ segregate cows from herd		In house	as needed		DFM	
	antibiotics		C DFA/ DHS	monthly		DFM	
	antibiotics - SNAP Appendix N		In house	2X daily		DFM	CCP 2
Mastitis	SCC on bulk milk		DHS	monthly		DFM	
	DHIA SCC on each cow		DHIA	bi-annual		DFM	
	SCC on individual cows		in house	quarterly		DFM	
Water -all	Coliforms		C DFA/DHS	annual		DFM	CCP3
Milking Parlour - GMP to minimise risk of contamination by pathogens & CA Dairy Licence system (DHS)							
Labour	Trained herdsman; disease free, clean clothes, hand washing		herdsman	daily		DFM	
	Trained milkers; disease free, clean clothes, hand washing		milkers	daily		DFM	
Parlour	GMP	visual inspections	milkers	daily		DFM	
Cow	Teat preparation	visual inspections	milkers	daily		DFM	
Machine milking	Cleaning	Time & temp/ chemicals	data logger	2x daily		DFM	
	Good dairy practices	visual inspections	Herdsman	2x daily		DFM	
	All Maintenance	visual inspections	Herdsman	2x daily		DFM	
	Milk temperature	Data log to <40F	Milker	2x daily		DFM	
Creamery - on farm - GMP to minimise risk of contamination by pathogens & CA Creamery Licence system (C DFA)							
Creamery silo & distribution lines							
	CIP	Visual & Milk Pumping Checklist	Creamery staff	2x daily		CM	
	Milk temperature	Chart recorders <40F	Creamery staff	2x daily		CM	
Separation	COP	Visual &/or Rapid Sanitation test (ATP)	Creamery staff	on use		CM	
Butter	COP	Visual &/or Rapid Sanitation test (ATP)	Creamery staff	on use		CM	
Filler	COP	Visual &/or Rapid Sanitation test (ATP)	Creamery staff	on use		CM	
Containers	Approved Supplier	C of A	from supplier				
incl lids	GMP to prevent contamination		Creamery staff	daily		CM	
Housekeeping	GMP to prevent contamination						
	GMP - staff hygiene measur	Training & SOP	Supervisor	daily		CM	
	GMP - pest control	in house rodents, flies	Supervisor	daily		CM	

Step/process	management	Tests description	Tests by	Records C of A	CP/ CCP	Certification	Audit
Food safety plan for Raw Market Milks - A living food with inbuilt immunity to pathogens							
	GMP - cleaning and sanitati	Visual &/or Rapid Sanitation test (ATP)	Supervisor	CM			
	GMP - Temperature control of finished product		data logger	CM			
Finished products, tested for pathogens E.coli O157 H7, salmonella, Listeria, Campylobacter							
	Raw milk - raw Grade A	pathogens, coliforms, SPC	3rd Party	CM	CCP 4	yes	yes
	Raw milk - raw Grade A	pathogens, coliforms, SPC	CDFA	CM			
	Raw skim milk - raw Grade A	pathogens	3rd Party	CM	CCP 4	yes	yes
	Raw cream - raw Grade A	pathogens	3rd Party	CM	CCP 4	yes	yes
Storage & Distribution - GMP to minimise risk of contamination by pathogens							
	Crates washed sanitised & stored i	Visual	In house	CM	CP		
	Cool rooms	Listeria	3rd Party	CM	CP		
	Transport trucks						
	GMP cleaning & sanitation	Visual/ Rapid Sanitation test (ATP)	creamery staff	CM	CP		
	Temperature control	Data logger	creamery staff	CM	CP		

Footnotes

DFM is Dairy Farm Manual for Quality Assurance; CM is Creamery manual for Quality Assurance
 CCP is a critical control point for food safety; CP is a control point for food safety
 *ATP rapid test to confirm visual inspection of cleaning & sanitation



Food Safety Plan

OPDC RAMP Team Members

1. Mark McAfee
559-846-9732 ph 559-842-8061 fax
mark@organicpastures.com
CEO Founder, OPDC

Overall knowledge of raw milk market and production systems with authority and responsibility for delegation for execution of the FSP program.

2. Aaron McAfee
Operations Manager, OPDC

Knowledge of dairy, creamery and safe production systems. Responsible for implementation of FSP (HACCP) systems at OPDC. Responsible for day to day record keeping and internal auditing. Assures execution of program and compliance.

3. Luis Hernandez
Creamery Manager, OPDC

Knowledge of dairy, creamery and safe production systems. Responsible for implementation of FSP (HACCP) systems at OPDC. Responsible for day to day record keeping and internal auditing. Assures execution of program and compliance.

4. Teo Urbietta
Dairy Manager, OPDC

Knowledge of dairy CIP, COP and safe production systems. Responsible for implementation of FSP (HACCP) systems at OPDC dairy. Responsible for day to day record keeping and internal auditing in Dairy Department.

5. Sierra Labs
Tulare, CA 559-686-2070
Third Party Microbiology Lab

6. Dr. Ron Hull, Principal
Consultant Microbiologist
Ron Hull and Associates
Melbourne Australia, 613 9807 5011
External HACCP Consultants

*Dr. PC Vasavada, Professor of Food Science
Dairy extension office UW-RF
External RAMP HACCP consultants 715-425-3704*

Dr. Ted Beals, Consultant Pathologist, Retired

OPDC Creamery Manager Checklist

	/ /	/ /	/ /	/ /
Transport Tanks				
Verify Milk Pumping Checklist for 2 tanks				
Date of tank expiration	Tank #1	/ /	Tank #2	/ /
Verify Appendix N				
Plastic around shaft is clean				
Silo Room				
Caps on all hoses and valves				
Hoses hanging from center and clean (smell)				
Agitators on both silos				
CIP temperature >140				
Milk temperatures 34-39				
No overlap on chart recorders				
Soap, towels, filters, gasket inventory				
Charts filled out with date, silo #, plant #				
CIP at least every 72 hours				
Doors and windows clean				
Hand washing sink clean and empty				
Walls smooth/cleanable, no mold/spider webs				
Floors, drains, windows clean				
Verify the fire extinguisher is not expired				
Creamery Plant				
Soap, towels, hairnets, cold storage full				
Hand washing sink clean and empty				
Doors closed at all times				
Fan working, filter clean				
Buckets labeled in cold storage				
All machines working				
Drain caps off				
Skim pump, elbows COP				
No flies				
All equipment is painted and clean				
All equipment is greased				
No broken tiles or grouting				
Verify the fire extinguisher is not expired				
Cold Storage				
No products unused, send to shipping				
Temperature 34-37 degrees				
Clean and orderly				
Inventory				
Clean and orderly				
No holes in bags				
Doors closed				
Critical inventories ordered, reported***				
Kefir/Kombucha				
Soap, towels, hairnets, gloves full				
Hand washing sink clean and empty				
Doors closed and fan on				
All empty bottles covered				
All jars labeled				
Verify the fire extinguisher is not expired				
Checklists				
Wasted/Returned Fresh (Distribution Mgr)				
Kombucha Production Sheet				
Plant/Grounds				
Bacteria samples sent to lab				
Assure adequate salt in softner, PO if low				
Propane inventory-record here				
Breezeway and hot water room clean				
<u>Notes to Operations Manager:</u>				

RAMP - Daily Herdsman Checklist

Herdsman Initials:	Monday	Tuesday	Wednes.	Thursday	Friday
Milk Barn	/	/	/	/	/
Caps on outside of milk barn					
Caps on milk hoses					
Milk hoses hanging					
CIP temp >140					
Milking cold temp <40					
Check chart recorder for cold wash 1st!!!					
Chemical levels ok					
Iodine level ok					
Milk filter quantity ok					
Trash taken out					
Milk room clean					
Lights working					
Propane level (record here)					
Empty water from air compressor					
Check rat traps					
Verify the fire extinguishers aren't expired					
Hay barn					
Trash taken out					
Grain level ok					
Salt level ok					
Mineral levels ok					
Tractor oil, diesel checked					
Bales if Alfalfa (big, small)					
Tools organized or hanging					
Verify the fire extinguishers aren't expired					
Pasture					
No leaks in water feeders					
Water feeders full of water					
Hay feeders straight and lined up					
Electric fences hot					
Mineral levels ok					
Salt level ok					
Some residual feed in feeders					
Calves					
Moved crates?					
Eatags written on list in office					
Any cash sale report to Manager					
Colostrum					
Placed in cold storage-freezer					
Labeled properly					
Recorded on Colostrum Log					
Notes to Manager					

Standard Sanitary Operating Procedure

Bacteria Testing

This is the operating procedure that should be followed to take samples of raw milk to be tested for SPC, LPC, and Coliforms

1. 2 Samples per week should be taken per week to assure proper surveillance of cleanliness
 - a. 1 Sample from the dairy bulk tank to measure cleanliness from the dairy
 - b. 1 finished product from the same milking/lot that it was made to verify the added bacteria of the creamery
 - i. Finished product samples should be from each type of product made from that transport tank
2. Using a clean dipper sanitized in acid or iodine, take sample from transport tank
 - a. Follow all procedures for taking a representative sample under guidelines of Sampler and Weigher regulations
3. Write the description of the product on the sample vial
 - a. Information that the sample vial should contain includes: Date, AM or PM transport tank, "SPC", "LPC", "Coliforms", "OPDC"
4. Store in the dedicated sample refrigerator located in the lab area
5. Process milk into finished products
6. Take 1 sample from each finished product that was made from that transport tank and repeat steps 3 and 4
7. Make a purchase order for Sierra Labs using the following costs for each test
 - a. SPC \$5.00
 - b. LPC \$5.00
 - c. Coliform \$10.00
 - d. BF \$2.00
8. The Controller or someone authorized to deal with cash will issue the cash for the samples
9. Transport the samples in an ice bath and maintain 34 degree temperature until they reach the lab

Standard Sanitary Operating Procedure

CIP Transport Tanks

This is the operating procedure that should be followed every time a soiled transport tank is washed at the plant. Follow these procedures to comply with all regulations for IMS, Grade A and to maintain proper sanitation.

1. The tanker has already been emptied and is now ready to be cleaned.
2. A creamery staff person:
 - a. Follows the Milk Pumping and CIP Checklist for necessary critical control points that should be cleaned or measured. Included are:
 - i. CIP time should be at least 10 minutes
 - ii. Hot temperature should be over 120 degrees
 - iii. Exterior clean
 - iv. Agitator shaft in place
 - v. Valve taken apart and COP each piece
 - vi. All caps are on all orifices after completion
 - vii. Gaskets and caps were COP clean
 - viii. Old wash tag is removed and new wash tag replaces it
 - ix. Move the tank out of the cleaning area and chalk the tires
 - b. In addition to these steps, the creamery staffer follows the Transport Tank CIP Procedure. This outlines the exact amounts of water, chemicals and temperatures that are to be achieved for optimal sanitation. This procedure is translated in Spanish to reduce any confusion.

Standard Sanitary Operating Procedure

Pathogen Testing

This is the operating procedure that should be followed every time a sample of raw milk or manure is to be tested for e.Coli 0157:H7 at the creamery.

FOR RAW MILK SAMPLES

1. A 2 ounce sample of milk should be collected
 - a. Follow all steps for taking a proper representative sample of milk
2. Begin to fill out the "Test Record Sheet" with pertinent information (date, time, etc.)
3. Put your gloves on and assure the testing area is clean before you start
4. Follow all directions on the package of Rapid Check e.Coli 0157:H7 Media to enrich and incubate the media
 - a. Once the media is prepared, pour into a stomacher bag and label with milk lot #, date and time
 - b. Place the stomacher bag in the heated incubator (42 degrees Celsius) for 8-18 hours
5. Place milk sample in a clean stomacher bag
6. Add the enriched media to the bag and mix thoroughly
7. Using a sterile pipette, remove enriched liquid and place a drop in the cassette sample port
8. Read the sample results in 10 minutes
9. Record results and complete the "Test Record Sheet"
10. Clean the testing area thoroughly

FOR MANURE SAMPLES

1. The herdsman should collect the manure sample
 - a. Use a clean milk sampling vile and gloves
 - b. Fill the sample vile full of manure/waste water from the manure gutter in the milk barn
 - c. Collect sample before wash chemicals have been applied
2. Label the sample vile "Manure Sample", date, time
3. Immediately take the sample to the Creamery Manager for testing
4. Wash your hands
5. Tester will follow steps 2-10 on the protocol listed above for Raw Milk samples

Aaron McAfee, Operations Manager Date

Mark McAfee, Founder Date

Standard Sanitary Operating Procedure

Receiving Milk at Creamery

This is the operating procedure that should be followed every time bulk milk is received at the creamery. Follow these procedures to comply with all regulations for IMS, Grade A and to maintain proper sanitation.

1. Milk comes from dairy or any tanker being received
 - a. A certified Sampler and Weigher are required to receive milk at the plant. This staff person will begin the Milk Pumping and CIP Checklist. This procedure is translated in Spanish to reduce any confusion
2. A certified Sampler and Weigher of the creamery staff:
 - a. Gets the sample dipper (assuring it is clean first) and checks the temperature of the milk
 - i. If the milk has a temperature greater than 45 degrees, the load is rejected
 - b. Takes two samples of the raw milk
 - i. Both samples are labeled with date, temperature, tanker number and time
 - ii. One sample is tested for antibiotics according to the section Appendix N of the Pasteurized Milk Ordinance and in compliance with Interstate Milk Shipper code. If the sample is positive, the load is rejected and the proper procedure should be followed in dealing with a presumptive positive record
 - iii. The other sample is labeled and ready to go to the lab to be tested for SPC, LPC and Coliforms
 - c. After the sample has passed, it is now ready to be pumped into a holding tank
 - d. Before pumping, the staff person must verify that all the hoses, valves and food-contact surfaces are clean and sanitary. After verification they can begin to connect the hoses to the pump, tanker and silo
3. The raw milk will be pumped into a clean tank with a calibrated measuring stick
 - a. The staff person will note the beginning measurement and the ending measurement (after milk is pumped). They note this on the Milk Pumping and CIP Checklist
 - b. This milk volume information is collected daily by the Creamery Manager so that the data can be entered into the Production Database
4. The milk is now ready to be processed

Standard Sanitary Operating Procedure

Reporting Abnormalities in Milk

OPDC Raw Milk should never have discolorations, foreign particles, debris and always be kept cold (less than 40 degrees for optimal quality). Abnormalities in milk include, but are not limited to: blood, mastitis particles, sand, alfalfa and other feed particles, flies or insects, etc. In the event that abnormalities are discovered in milk, follow this procedure:

Identifying the Abnormality

1. Call Creamery and Dairy Manager immediately
 - a. They should call the Operations Manager immediately to ensure this protocol is followed and documented
2. Do not continue to milk or process the milk if the problem can be avoided or fixed
 - a. This will limit the loss to what has already been contaminated reduce further damage
 - b. If caught during bottling or processing
 - i. CIP bottling line and finish order with fresh milk that is not contaminated
 - c. If caught during milking
 - i. Get another clean transport tank and milk the remainder of the cows into that tank
 - ii. If the milk line or food contact surfaces are contaminated, CIP before continuing to milk
3. Isolate the contaminated milk
 - a. Keep the milk in the tank and properly label the tank as contaminated so that anyone approaching the tank can be clearly notified
 - b. If the milk has already been bottled or processed, label it clearly in the cold storage and quarantine
 - i. Do not let that milk go anywhere
 - c. Do not pump the contaminated milk into any silo or tank which has milk already in it
 - i. Doing this will contaminate more milk and cause a bigger problem
4. Fix the problem
 - a. If the problem has to do with temperature or a machine malfunction, report that to the Dairy Manager or Operations Manager so they can begin to solve the problem
 - b. If the problem was caused by a specific cow (blood or mastitis), mark her clearly with a paint stick and record her number and give to the Dairy Manager or Operations Manager

Dealing with Contaminated Milk

1. Call Creamery Manager or Operations Manager immediately
 - a. Report important information such as time, temperature, color, smell, volume of contaminated milk, source of contaminated milk and employees who know anything about the source of the contamination
2. Determine the usefulness of milk
 - a. Under no circumstances is the whole milk or cream/skim taken from the separator to be bottled for raw milk for human consumption
 - b. Our separator is a clarifier and can generally clarify discolorations and particles out of the milk
 - i. Cream from this milk should be made into 4a (Butter) products only
 - ii. Skim from this milk should be fed to calves or sold as raw milk for pasteurization, depending on the quality of the skim milk
3. Record everything
 - a. Make note of the gallons of milk, if any, that was fed to calves as a result of identifying the abnormality
 - b. This will be reported to CDFA Milk Pooling, so be sure to record this with a hard copy or original document with a important information such date, time, signature of the employee, stick measurement to determine milk volumes

Standard Sanitary Operating Procedure

Setup of Mobile Milk Barn

This is the operating procedure that should be followed every time a sample of raw milk is to be tested for e.Coli 0157:H7 at the creamery.

1. Lead Milker:
 - a. Takes a clean Transport Tank to the milk barn
 - i. Verifies that the Transport Tank is clean by reading the Wash Tag which indicates time, temperature, chemicals used, operator, etc.
 - b. Attaches the Transport Tank to the Milk Barn using the milk hose
 - i. Milk hose was CIP clean from the previous milking
 - ii. Milk hose was capped to prevent flies and insects to enter the hose
 - iii. Uses a gasket to connect hose and reduce milk leaks
 - iv. Plugs in agitator to milk barn and verifies rotation of shaft
 - c. Turns on generator
 - i. Checks oil level, fuel level and water level before turning generator on
 - d. Turns on milk pump, chiller, vacuum pump, hot water heater
 - i. Put all drain caps on, open milk valve at receiver, put new milk filter
 - ii. Verify that hot water heater is on and light is red
2. Assistant Milker:
 - a. Detaches all milk machines from the jetter cups
 - b. Gets the cows into the holding pen and brings the first round of cows into the milk barn
3. After beginning milking, Lead Milker:
 - a. Verifies that chiller is working
 - i. Milk temperature should be less than 40 degrees Fahrenheit