

Farm Conditions	Reference	Narrative of Conditions	Risk Reduction	GMP
F1	Green Pastures	Wilson Ranch is located in the Ozark mountains of North Central Arkansas. There is an average rainfall of about 50 inches per year. Pastures at Wilson Ranch are Bermuda, Byhalia, clover, orchard, and other mixed grasses. Livestock will be rationally grazed between pastures. We have the ability to irrigate 150 acres. Winter grasses are drilled into pastures in the fall.	Ensure that pastures are kept green (with irrigation if necessary) and that livestock have adequate space. Ideally, soil fertility testing for macro- and micro-elements should be performed every 3 years to detect deficiencies or overaccumulation of nutrients in the soil that could have an impact on pasture quality and/or herd health.	★
F2	Clean, Tested Water	Water for the dairy is from the city water source.	Ensure that water is pure and not contaminated. Annual testing.	★
F3	Rotational Grazing	We rotationally graze based on the University of Michigan's studies on pounds of animals per acre per grass production. This is not an every day rotation but rather every few days based on paddock size. This increases the consumption and nutrition rate by decreasing competitiveness. There is no overall difference in the carbon or nutrient impact between that and higher intensive grazing.	Move cows/does to new pastures every day to ensure nutrition and cleanliness.	★
F4	Clean and Dry Conditions	Wilson Ranch rotationally grazes and is located in the Ozark mountain region where there are well drained pastures.	Well drained paddock, manure cleaned up daily. Ensure that shelter conditions and packs are managed properly year-round.	★
F5	Poultry	Wilson ranch has one chicken coop. It is completely sealed off from the pastures. There is a bio-security limited area, where no one is allowed into the milking area after being anywhere near fowl. Shoes have to be changed and protective garments are being worn. For previous year and half we have not had any poultry.	Prevent cross-contamination by ensuring that chickens or other birds do not enter and roost in the milking room areas. Consider implementing time separation between cows/does entering pasture after chickens have been removed from area.	★

F6	Pigs and Other Livestock	Currently, Wilson ranch does not facilitate swine.	Prevent cross-contamination by ensuring that pigs are not in the same pastures and other areas with cows/does.	★
F7	Pasture Management	We hand remove all thistles and invasive species and noxious weeds from pastures when they are encountered. Pastures are evaluated biannually for weeds. All perimeter fences are evaluated on regular intervals.	Check annually to ensure that no harmful pests or weeds invade the herd's environment and that all perimeter fences are secure.	★
F8	Biosecurity	Wilson Ranch has strict Biosecurity protocols that require anyone entering into the dairy to don PPE and have clean disinfected shoes then pass through a boot disinfectant wash. Biosecurity guidelines are posted at the Dairy entrance.	Ensure that visitors and farm helpers are educated about risks of cross contamination.	★

Animal Nutrition and Conditions	Reference	Narrative of Conditions	Risk Reduction	GMP
A1	Herd Health	There will be daily checks on the all livestock on the farm. Our in-house veterinarian is to give each animal an individualized health plan for breeding, nutrition, and parasitic control. The milk will be tested monthly for E.Coli 0157:H7, Campylobacter, and Listeria Monocytogenes. Standard plate counts and coliform plate counts will be conducted at least once a week through our own laboratory. Records will be kept for all veterinarian services, annual vaccinations, and laboratory testing. Our cattle are tested for TB and Brucellosis as well as Anaplasmosis, and Johnes. All cattle must be negative. Any new cattle must be quarantined until results are established as well as any cattle that are taken off farm for fairs etc.	If possible, maintain a closed herd. Ensure that only cows/does with good body condition, from a known high quality herd, negative TB tests, negative bangs test, and no infections or other health issues are purchased and used for human consumption raw milk.	
A2	Veterinary Program	Wilson Ranch has an "In-House" veterinarian who is in charge of our herd health program and biosecurity. Dr. Aaron Wilson DVM, MPH, is also a public health specialist who will ensure our program exceeds US and international standards.	Ensure that a proper preventative veterinary program is followed.	★

A3	Mastitis Control	Daily inspection of all lactating cows is performed as a part of our SSOP. California mastitis assessments or Mas-D-Tec will be conducted on all milking livestock every milking. Standard plate counts will also be conducted. For each milking, a strict cleaning protocol will be followed. Stalls will be mucked and sterilized daily. Any cow with a positive mastitis result will be bucket milked with a portable bucket milker, or hand milked, so that the milk will not enter into the pipeline system. A colored leg band will be placed on the leg of the infected quarter. They will not return for collection, until a negative test is presented and the veterinarian check is clean.	Ensure that animals are being closely monitored for signs of mastitis. This may include visual inspection of the udders and milk as well as SCC testing. Milk from mastitic animals must not enter the milk bottling room, and can be either fed to animals or discarded.	★
A4	New Livestock	There will be a 2 week quarantine on all new livestock presented to Wilson Ranch. All new livestock will require new milk testing before being presented for selling. We will test twice in the first month for E.Coli 0157:H7, and Listeria Monocytogenes. All new cattle will receive a full panel of tests as determined by the veterinarian before being incorporated into the herd	Ensure that a proper biosecurity protocol is followed when introducing new livestock, such as quarantine, etc.	★
A5	Water Feeders	Weekly cleaning	Ensure water feeders are clean for animal consumption use.	★
A6	Milk from At-Risk Animals	Quarantine of all suspect cattle until confirmed.	Ensure that all milk from animals that are separated for health risks will not enter the Milk Bottling room and will be fed to animals or discarded.	★
A7	Milk from Fresh Cows/Does	All fresh cows will be tested twice in the first month for E.Coli 0157:H7, (Campylobacter, and Listeria Monosytogenes when available). Standard plate counts and coliform counts will be conducted as our normal routine of testing. Colostrum and milk may be milked and stored/frozen for animal use only on all milk from fresh cows. The jugs will be clearly labeled for animal use only. These jugs will not be used for human consumption. For fresh cows we start testing for Listeria, E coli, and Coliform after two weeks, before then all of their milk goes to the calves. We do individual cow tests, once a week for one month.	Milk from fresh cows/does poses greater pathogen risks. Ensure that this milk is separated and does not enter the Milk Bottling room until a specific time period has elapsed or testing has been accomplished.	★
A8	Calf Management	Calves are currently bottle fed. In the future if we have any A1/A2 cattle, they may be used as nurse cows, but will never be milked in the system.	Allowing calves/kids to be with their mothers poses greater pathogen risks. Ensure there is a program in place for either separating calves/kids from mothers or otherwise managing the increased risks.	
A9	Nutrition	There is a proper nutrition and mineral program monitored by our Veterinarian	Ensure that livestock is fed a nutritionally appropriate diet to maintain health and body condition.	★

A10	Supplements	Minerals and supplements are given to all livestock on Wilson Ranch. Livestock receive Vigor-Tone Chelated plus copper, Iodine, Selenium, and Vitamin E.	Ensure that minerals and salt are continually available and appropriate to the needs of herd in this ecosystem.	★
A11	Feed Management	Hay barn keeps the premium hay dry and works great.	Ensure that feed is dry and protected from moisture or pests.	★
A12	Animal Cleanliness	Manure is piled and we have a dump truck that works great for waste disposal.	Ensure that cows/does stay clean year-round, shelter facilities are managed and waste is composted separately from cows/does.	★

Milking Conditions	Reference	Narrative of Conditions	Risk Reduction	GMP
M1	Milking Parlor Cleanliness	Cleaned daily after each milking and checked prior to each milking.	Keep milk parlor conditions clean, dry and organized.	★
M2	Bathroom	There are 2 Bathrooms located in a separate buildings less than 50 yards from the parlor and milk house. Hand washing facilities are located in the milk house.	Ensure that there is a bathroom which can be easily accessed from the milking parlor and bottling room.	★
M3	Manure Management	Manure is flushed out of the parlor.	Ensure there is a plan in place for managing manure in the milking parlor.	★

M4	Water Management	Floor of the parlor is sloped and drains to the outside.	Ensure there is no standing water in the milking parlor. Ideally, the floor should drain to outside or to a sump area.	*
M5	Training	Training is a major part of our new employee program. The farm manager is in charge of the oversight of the training and implementation.	Ensure that only appropriately trained and experienced milking teams perform the milking duties.	*
M6	Udder Prep	We have a strict udder prep program and post milking protocol. These are listed on our SSOP.	Ensure that udders are cleaned, dried, sanitized for at least 30 seconds, and stripped prior to milk collection. Ensure that post-dip is applied after milking. Iodine based pre- and post-dips are preferred.	*
M7	Vacuum Pressure	Vacuum is serviced and maintained regularly.	High vacuum pressures are associated with increased mastitis. Ensure that vacuum gauge reads negative 11.5 to 12 inches vacuum pressure during milking.	*
M8	Milk Quality	Monthly testing of all lactating cattle.	Ensure that all milk is evaluated for quality and SCC test is performed on regular basis.	*
M9	Inflation Liners	Changed bi-monthly and as needed.	Cracks in inflation liners can harbor bacteria and biofilms. Ensure that milk claw inflations liners are replaced regularly, depending on the manufacturer's suggested cycle life and number of accumulated cycles.	*

M10	Clean Milking Equipment	Milking equipment is cleaned per our SSOP and is a CIP self contained system.	Ensure that milking equipment is clean and well maintained. Cleaning should begin with cool/tepid water rinse, to prevent formation of milk stone. Cleaning protocols should include both alkaline and acid cleaners. Typically, cleaning should start with cool water rinse, followed by hot alkaline cleaner, followed by hot acid sanitizer.	*
M11	Clean-In-Place Equipment (if applicable)	We have a CIP system that has 180 degree water.	Temperature at exit of Clean-In-Place system should be at least 140 degrees F (60 C). Clean-in-Place protocols should include regularly (1-2x/month) using alternate acid and alkali cleaners to prevent cleaner-resistant bacteria colonies.	*

Bottling Conditions	Reference	Narrative of Conditions	Risk Reduction	GMP
B1	Clean Bottles/Jars and Lids	We use all new plastic milk jugs and lids.	Ensure that glass bottles and lids are clean and sanitary prior to filling with milk. Non-metal lids are preferred since rust from metal lids can encourage pathogen growth. Ensure that plastic bottles and lids are kept clean and uncontaminated.	*

B2	Chilling	36 degree cold storage in bulk tank, and in sales cooler. Sales cooler is checked regularly for temperature with two separate thermometers.	Ensure that chilling is completed in one hour to less than 40 degrees F (4.4 degrees C).	*
B3	Prevent Jar Contamination	N/A Sales are in single service plastic jugs.	Ensure that no chilled ice water ever rises above the level of the filled milk jar lid line.	*
B4	Clean Milk Handling	Very clean milk house and processing room. Personnel wears adequate PPE (gloves, hair net, etc.) to ensure a high standard of cleanliness during handling of milk.	Ensure cleanliness of personnel prior to handling milk and filling or capping jars.	*
B5	Bulk Tank Sanitation	CIP on bulk tank/ inspection.	Ensure that the bulk tank is emptied and sanitized regularly. This should include complete disassembly and cleaning of valves.	*
B6	Health of Personnel	Staff are all trained that any sign of illness should be reported to the manager. Anyone who is ill is not allowed to handle the cows or raw milk.	Ensure the health of all employees that handle milk.	*
B7	Bottling Room Management	Concrete floor that slopes to drain. Water proof walls and all stainless steel equipment. Window for natural light and LED ceiling lighting.	Ideally, the floor in the bottling area should have a slope and drain, the air should be filtered and under slight positive pressure to keep out flies, there should be plenty of natural light, the walls should be smooth and washable, and there should be a sink/washing area.	*
B8	No Contamination in Milk Area	Cleaned and sanitized daily	Ensure that area where milk is handled is free from contamination.	*

B9	Clean Milk Area	All concrete floor facility and is cleaned daily.	Ensure that the place are where milk is handled is regularly cleaned.	*
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Retail Area and Storage	Reference	Narrative of Conditions	Risk Reduction	GMP
R1	Milk Temperature in Storage	Cold 36 degrees, sales cooler is checked regularly for temperature with two separate thermometers.	Ensure that product is kept cold.	*
R2	Jar Labeling	No Jars used/ Plastic labeled gallon jugs with date.	Ensure that jars are properly labeled and dated, and picked up within three days	*
R3	Warning Statement	State mandated warning sign is posted and is included on every Jug label. "This product, sold for personal use and not for resale, is fresh whole milk that has NOT been pasteurized. Neither this farm nor the milk sold by this farm has been inspected by the State of Arkansas. The consumer assumes all liability for health issues that may result from the consumption of this product."	Ensure that required warning is posted at point of pick up.	*
R4	RAWMI Donations	All donations to RAWMI will be collected and sent to RAWMI every month.	Ensure that these tax deductible donations are collected and sent to RAWMI every month.	*

Testing Protocol and Results	Reference	Narrative of Conditions	Risk Reduction	GMP
T1	SPC and Coliform Testing	Coliform and SPC will be performed weekly through our facility laboratory by a licensed laboratory personnel. Data will be available for any required inspections. Testing will be complaint to RAWMI common standards.	Ensure that coliform and SPC testing is completed at least monthly. Ensure that this data is available and compliant with RAWMI Common Standards and for review.	*
T2	Compliance with Standards	If bacteria is above the RAWMI common standards, immediate deep cleaning and sterilization of the equipment will be performed. Individual livestock will also be checked when deemed necessary. Once deep cleaning and sterilization of the equipment is completed, retesting must take place to ensure compliance with the common standards.	Ensure compliance with Common Standards.	*
T3	Pathogen Testing	Our laboratory facility will be using 3M Petrifilm for E.Coli 0157:H7. Listeria Monocytogenes, Salmonella.	Test regularly for 4 pathogens: campylobacter, salmonella, listeria mono, E coli 0151H7	★

Customer Complaint and Compliments	Reference	Narrative of Conditions	Risk Reduction	GMP
C1	Customer Communications	All complaints will be filed and tracked as necessary. There have not been any complaints to date.	The RAWMI LISTED farmer must keep a file and record of all complaints. This information is used by the farmer to track any potential emerging illness outbreaks or issues.	*

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