**Standard Sanitary Operating Procedure (SSOP)**

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SSOP’s are written protocols that are specified in a food safety plan that define the procedures to be followed to achieve a specific goal or process. An SSOP may define temperatures, type of cleaning chemical, various steps, or other practices to be used, and in what order to achieve a clean bottle or bottle cap.

***Guiding Principals and Key Observations for all Operating Procedures:***

1. ***Keep these points in mind while stepping through this work. Get over yourself. Respect this miraculous animal. These miracles called cows consume fiber that is indigestible for humans and ferment that fiber and produce milk that is the most nutritious and bio-available form of protein that humans can consume. There are good reasons that our ancestors always kept ruminants. There are good reasons underprivileged people often keep ruminants in tow.***
2. A sick cow will divert resources to healing instead of milk production. The safest milk comes from healthy cows.
3. Observe demeanor of cows. Pay attention to the position of their ears. Droopy ears mean the cow is not feeling well. Observe eagerness to follow you and to enter the parlor.
4. Inspect the hind end. Lift the tail. Pay attention to the smell. There should be no foul odors or blood. Fresh manure should have an initial “green” smell. After the green smell there might be a smell of buttermilk that may make your stomach growl or cause salivation.
5. The smell of fresh urine should have a refreshing fermented smell.
6. Inspect cows for abrasions or contusions. If there are abrasions or contusions evaluate the height and then visualize where this may have occurred in their normal areas of movement. Pay attention for insects that may be bothering the cows.
7. As cows enter the parlor observe leg strength, leg flexibility, balance and mobility.
8. Does the cow hesitate to place weight on any leg or does she limp?
9. Before the cows enter the stanchion get in front of their face and smell their breath. There should be no foul odor. If she belches, it should smell like appealing fermentation.
10. ***Healthy happy cows make healthy milk.***

***Milking Conditions***

1. Assure Operation Milking Procedures are followed for every milking.
   * All milking equipment is cleaned according to SSOP practice as described.
   * Remove inflations from stainless teat cups.
   * Flush machine with potable tepid water to remove milk residue that forms milk stone.
   * Soak bucket and washable components with chlorine based dairy soap.
   * Scrub iflations and bucket lid with appropriate brush. Scrub entire bucket with appropriate brush.
   * Pour remaining dairy soap into udder prep bucket.
   * Take udder prep bucket outside to scrub the bucket and squeeze out the white terry cloth. Pour chlorine cleaner on gravel.
2. Machine and components are allowed to hang and drip dry in a protected area.
3. Any hoses, inflations and other parts that are worn are replaced as needed, at a minimum once a year.
4. The machine repairman performs maintenance checks and tune-ups as needed.
5. The vacuum lines are cleaned periodically to minimize any potential for contamination.
6. Ensure that each time you enter the milk processing room you wash hands before continuing with your task.

***Bottling Conditions***

1. Ensure that glass bottles are clean and sanitary prior to filling with milk.
2. All glass milk jars are initially cleaned by consumers and then inspected and then machine washed and sanitized.
3. Clean and sanitized glass milk jars are stored upside down in a dedicated closed dust free cabinet in the milk room.
4. Clean and sanitized plastic lids are stored in the same cabinet with glass milk jars in dedicated containers.
5. Stainless steel funnels are cleaned with chlorine based sanitizer, scalding water rinsed, air dried and stored in a dedicated closed dust free cabinet.
6. All personnel must wash hands before handling glass jars and lids and funnels and filters.
7. Label jars and write name and date on each jar.
8. Once milk is bottled, place in cold water bath with frozen ice packs in dedicated chilling bucket, return to mild refrigerator. Assure thermometers read 35-38F.
9. Jars remain in the refrigerator until picked up by the consumer.

***Milk Room – Milking preparation and Milker Assembly:***

1. Enter the milk processing room, close the door to control insects and dust. Wash hands before handling any equipment.
2. Assemble the Surge bucket milker.
3. Fill the udder prep bucket with hot water and soap.
4. Prepare a half gallon glass jar with oxygen based sanitizer, set in the milk filtering area.
5. Assemble the appropriate stainless steel funnel and filter assembly.

***Cow Preparation and Staging:***

1. ***The Surge milker should not be set on the ground or any other un clean surface. Pay special attention to protect the openings and edges of the inflations.***
2. While walking to the barnyard call to and talk with the cows. This will alert them to milking time.
3. Carry the Surge milker and udder prep bucket into the milking parlor. Place upon the designate shelf. The outside parlor door is closed.
4. Place the udder prep bucket next to the stanchion.
5. Go to the vacuum pump room. Turn on the vacuum pump and ensure that it reads 12. Gather appropriate feed. Preparation and sounds of the pump will further alert the cows.
6. Look out the barn windows. Observe the cows as they walk toward the parlor door. As they walk and wait they generally clear out urine and manure. If they are hesitant to enter the parlor give them time to complete clearing out.
7. Place feed for each cow into the appropriate stanchion trough.

***Milking Parlor:***

1. Ensure that the parlor is clean of debris and clutter.
2. Bring the cow into the parlor and walk her into the stanchion.
3. Fluff any debris from the abdomen. Observe that debris has settled to the floor.

***Udder Preparation***

1. Inspect the udder for any abrasions or inflammation. Notice if it feels normal or warm/hot.
2. Strip each teat ensuring that there are 4 full strips for each teat.
3. Using the udder prep bucket, clean the udder with the white terry cloth. Ensure that the final wipes on white areas of the cloth do not show soil.
4. Dry the udder with a clean white cloth.
5. Dip the teat in iodine teat dip.
6. Place the surgcingle on the cow and clear the area for milking. This will take 30-45 seconds which allows time for the iodine to work.
7. Wipe the iodine from the teats with sanitizing dairy wipes that are on the shelf next to the Surge milker. Use two wipes. The last wipe must show no iodine or dirt. Use more wipes as needed.
8. Attach the vacuum line to the Surge milker and open the stallcock. Listen for the correct milking rhythm.
9. Make sure the cow is comfortable with the milking. Does it seem like milking is causing pain? Is she trying to kick off the bucket?
10. As the milker runs stay with the cow. Massage the udder for best let down and to inspect for painful areas and inflammation or heat or hard spots. Pay careful attention to keep debris from falling onto the top of the milker.

***When cow is done:***

1. When the udder is flat and milking is complete, remove the Surge milker. Turn off the stallcock, remove the vacuum host and place the milker back on the dedicated shelf.
2. Remove the surgecingle belt. Place the surgcingle belt back on its hanger.
3. Strip the teats and dip them in iodine teat dip. If the teats are chaffed, used udder balm instead.
4. Using the last clean sanitizing wipe, wipe off the top of the sanitizing wipe bucket. Make sure to keep the plastic container on top of the wipes so that evaporation does not dry out the wipes within the bucket.
5. Place old wipes into the garbage pail.
6. Open the stanchion and guide the cow from the barn.
7. Close the parlor.
8. Expeditiously carry the Surge milker back to the house. Make sure to walk in such a way that the milker does not “hiss” or suck air into the milker. If dirt is sucked into the milker, discard the milk. If there is heavy rain cover the Surge milker with the old rain jacket dedicated to this purpose. If the weather is storm pay extra careful attention to debris that may accumulate on the lid of the milker – below the pulsator.
9. Weight the whole milker and subtract the tare weight. Record milk weight.
10. Lift the teat cups and draw clean air into the milker. This will release the vacuum seal of the milker. Remove the lid. Wipe the rim of the milker where the milk will flow or drip with oxygen based sanitizer.
11. Pour and filter the milk into the appropriate container and start the milk chilling as soon as possible.
12. If separating milk, warm up the separator with oxygen based sanitizer. Cycle filtered milk through the milk separator. Chill expeditiously.

***Clean Machine(s):***

**TEPID water is used to flush milk residues prior to flush with hot water and other sanitizers and soaps etc.**

1. Wear kitchen gloves to protect hands and forearms from cleaners and very hot water.
2. Fill the cleaning bucket with very hot water and mix in chlorine based dairy cleaner. Pay particular attention to using an appropriate amount of cleaner so that excess doesn’t build up on equipment.
3. Disassemble the machine.
   * Remove hoses from the pulsator.
   * Place the pulsator into its plastic container in the filter cabinet. Do not get the pulsator wet!
   * Remove the gasket from the lid, remove the inflations from the teat cups.
4. Rinse all parts with tepid water
5. Place items into bucket with diary cleaner and let them soak while wiping down the milk bottling area.
6. Scrub all parts with the appropriate brush.
7. Rinse all parts with very hot water and place on their appropriate hanger.
8. Use remaining dairy cleaner to clean the udder prep bucket and white terry cloths. Dump water with dairy cleaner into gravel outside.
9. White terry cloths are left to air dry in the milk room for the next milking.
10. The milk separator components are disassembled, rinsed with tepid water and washed in the dishwasher with a sanitizer cycle. Handled the same way as glass milk jars.

***Cleaning Milk Processing Room & Milking Parlor***

1. Clean up all milk spills with soap and water. Wipe down with sanitizing wipe.
2. Vacuum and clean milk room floor as necessary.
3. Milk room doors to remain closed.
4. At the end of handling milk and cleaning milk room, return to clean the milk parlor as needed.
5. Scrub the milk parlor areas with warm soapy water left over from udder prep. Use the push scrub brush. Squeegee the floor when done.
6. Clean the milker vacuum line periodically.