

Sanitation Standard Operating Procedure

Personnel (HPH)

Staff Food Safety/Sanitation

- Anyone contacting the food product or food contact surfaces must have clean hands. Hands must be washed prior to or as soon as you enter a production area.
- Hand washing station located in sugarhouse and main house
- Dry hands with a paper towel and discard it.
- All trash must be discarded in a container with a lid and labeled as “Trash”.
- Bathroom facilities at Cary and Main Co, are located in the main house and are cleaned weekly or as needed.
- All employees will wash their hands with hot water and soap after using the bathroom.
- A solution of food grade bleach and water is used to clean surfaces in the sugarhouse
- No eating near syrup production areas. Indicate designated eating areas on the facility layout.
- Peanut butter, tree nuts, dairy products, wheat, shellfish and soy are all allergens; do not bring them into food production areas.
- No smoking in any building or within 50 feet of any location where sap or syrup is stored or produced.
- No chewing gum or eating candies in the production areas.
- Do not come to work if you are feeling ill. This is especially important during the pandemic; know the symptoms of COVID-19.
- Seek prompt treatment for cuts, burns, wounds or other broken skin. This includes covering any broken skin with a waterproof bandage and gloves. The first aid kit is located by the front doors of the sugarhouse.
- Report cuts, burns, broken skin and sickness. If broken skin or wound cannot be covered then do not work in production area.
- Keep personal items away from sap or syrup production or storage areas. The designated area for storing personal effects is the house.
- Tie long hair back.
- Appropriate clothing must be worn at all times. Closed toes shoes must be worn.
- Keep fingernails short and clean.
- Do not use nail polish or false nails.
- Do not wear jewelry in the production areas. Rings may be worn if they are covered by gloves.
- All staff understand that anything or anyone passing through a facility can be a source of contamination.

Sugarhouse Employee Hygiene Policy

All persons working in the sugarhouse or syrup packing area are expected to guard against food contaminants including foreign objects such as plastic and glass, machinery parts, chemicals, damaged containers, insects and rodents, and allergens. Workers shall be aware that syrup is made from the raw agricultural product sap and they are involved in the production of food; this process has implications for contamination, off flavor syrup, or undesirable production methods; all of these potentially impacting the expectation of Vermont quality.

Personal Skill

All people assisting in gathering sap and the making of maple syrup shall have the proper experience or be trained in their role. All workers shall be aware of the good manufacturing practices, hygiene policy, and the sugaring procedures specific to this sugarhouse.

- Employee hygiene policy:
- Anyone contacting the food product or food contact surfaces must have clean hands.
- Do not come to work when you are sick.
- No eating in sugarhouse except in permitted break areas.
- No smoking or chewing tobacco.
- Keep personal items stored in designated area away from food storage or preparation areas.
- Tie hair back and cover it; Wear a hat.
- Keep nails short and clean.
- Do not use nail polish or false nails; do not wear loose jewelry.
- Completely cover cuts, burns, or wounds and other broken skin with a waterproof bandage and gloves.
- Cuts, burns, wounds, broken skin, and sickness must be reported.
- If broken skin or wound cannot be covered – do not come to work.
- No horseplay in areas where food is stored or prepared.
- Avoid wearing jewelry in areas where food is packaged or prepared.
- No glass or ceramic containers in the production area (besides syrup containers being filled).
- No gum and candies.
- Control employee traffic to prevent allergen and pathogen transfer.
- Peanut butter, milk and dairy products, wheat, shellfish and soy are all allergens – do not bring them in food production areas.
- Understand that anything, or anyone, passing through a facility can be a source of contamination.
- Document/report any issues with the above policies

Sugarhouse Handwashing Procedures & Policies

Cary and Main Co. follows the 2005 FDA Food Code and requires that sugarhouse workers wash hands:

- Before beginning work
- After touching bare skin including face (other than clean hands)
- After touching hair
- After using the restroom
- After coughing, sneezing, or using a handkerchief or tissue
- After touching other food
- After eating, drinking, or using tobacco or touching allergens
- After handling used/dirty equipment or utensils
- During food preparation to prevent cross-contamination
- Before putting on gloves when working with food
- After touching service animals or aquatic animals
- After any activities that would contaminate hands

Equipment Sanitation (HPE)

All equipment and surfaces in contact with maple products are tripled rinsed with hot water after processing, further cleaning is done with food grade peroxide and scrub brushes or pads as needed, and then triple rinsed. Equipment such as the Evaporator, Reverses Osmosis machine have specific cleaning procedures with Organic solutions. All processing tools and equipment are inspected before use and records are kept of cleaning.

Regular Inspection and Cleaning of Bulk Sap Containers

The following policies specify how Cary and Main Co. collects, stores, and maintains sap.

- Sap is only collected and stored in welded stainless steel tanks.
- Sap is only transported in food grade plastic tanks.
- Check sap tanks daily for any pests such as mice, bugs, etc. Remove any foreign materials as soon as you see them.

- Sap tanks are cleaned daily or whenever empty. To clean the tank, it is rinsed with hot water and scrubbed with a brush

Evaporator and Sugarhouse Shutdown and Cleaning Procedures

The following procedures describe how Cary and Main Co. shuts down and cleans equipment in the sugarhouse

Oil-fired evaporator:

- When the low sap warning sounds, turn off the burners

Concentrate tank and input to evaporator

- Drain any concentrate out of the input pipeline. Add this concentrate to the flue pan.
- Drain the pre-heater pipes by opening the bypass valve into the back float box.
- Drain the back float box and add this liquid to the flue pan.
- Rinse the concentrate tank with permeate and drain water via bypass valve so it does not go into evaporator.

Front/syrup pans

- After the sweet in the syrup pans stops boiling, drain and filter the sweet.
- Drain the sweet from each pan section through the filter press and into the clean 5 gallon food-grade pails.
- Close valves to pan so water cannot flow into the pipes that connect the pans. Move the empty syrup pans to the pan washer and start the wash cycle.
- Make sure the valves are open or the pipes are removed that connect the pans so water does not freeze in these pipes.

Back/Flue pan

- After the sweet in the flue pan stops boiling and the arch has cooled
- Spray the inside of the hood and wipe down with a clean sponge.
- Drain the sweet into a tank or syrup drum. Add filtrate water to the empty flue pan to a depth a few inches above the depth you boil at. If needed, add pan acid according to the ratio specified on the manufacturer's instructions.
- Start the pan wash cycle.

Draw off container

- Clean with pre heated permeate.

Filter Press

- Run hot water through the filter press to clean the pump.
- Take the filter press apart and wash, dry or discard the used filters and discard DE.
- Wash the filter press plates with hot water.
- Open the drain plugs to drain the pump.
- Wipe down the outside of the filter press.

Utensils including barrel filler

- Clean with hot water.

Outside of Evaporator

- Spray with water and wipe down the outside of the Evaporator.

Sugarhouse

- Wash the floor and any other soiled surface.

The following procedures describe how Cary and Main Co. finishes cleaning and sets up for boiling the next day.

Front/syrup pans

- Scrub each syrup pan and drain the filtrate water.
- If a syrup pan does not come clean then you can swap it out for an extra, clean pan. Move the dirty pan to the cleaning stand and fill with clean filtrate water. Add pan acid according to the ratio specified on the manufacturer's instructions.
- If a pan had acid in it then add baking soda to water to neutralize it and drain the neutralized water. Rinse pan and then add at least 6 inches of clean filtrate water and soak pan overnight.
- Move the clean syrup pans from the pan washer back to the arch.
- Connect the pans with the pipes and fill with buckets of sweet.
- Clean the food grade buckets with hot water.

Back/Flue pan

- If flue pan had acid in it then scrub it. Add baking soda to water to neutralize it and drain the neutralized water. Triple rinse pan several times with clean permeate water.

Filter Press

- Assemble the filter press with new filter papers.
- Close the drain plugs for the pump.
- Connect the filter press to the draw-off tank and the barrel filler

Reverse Osmosis (RO) Operating, Shutdown and Cleaning Procedures

The following procedures describe how the RO Operator runs, shuts down and cleans the RO equipment.

Concentrating Sap

- Change the pre-filters on the RO to use the clean sap filters before concentrating sap.
- Ensure there is an adequate amount of sap to create enough permeate to wash and rinse.
- Run the Concentrate cycle. The concentrate cycle removes water from the raw sap and produces a concentrated sap with a higher brix. Follow the instructions on the RO panel or in the RO manual to set the valves on the RO for the concentrate cycle.

Concentrate Flush and Short Rinse

- Run the Concentrate Flush within 30 minutes after RO finishes concentrating sap and shuts off. This is a rinse cycle that uses filtrate water to flush the remaining concentrate and sugar from the membranes. You can send the output from the concentrate flush to the concentrate tank or back into the raw sap tank. Follow the instructions on the RO panel or in the RO manual to set the valves on the RO.
- Immediately after the Concentrate Flush, run a Short Rinse for an additional 10-12 minutes. The Short Rinse continues to flush the membranes, but the output from the short rinse is discarded via the output drain since it is just water.

Wash

- The Wash is a hot water wash of the membranes. RO soap can also be added to the wash cycle for performance monitoring on the RO machine and have determined that it is time for a soap wash.
- Change the pre-filters on the RO to use the wash filters.
- Run the Wash cycle. The wash cycle fills a wash tank with filtrate water and then circulates that water through the membranes until it reaches a high temperature of {112 degrees} and automatically shuts

off. Follow the instructions on the RO panel or in the RO manual to set the valves on the RO for a wash cycle.

- If you are doing a chemical wash and adding soap: add manufacturer specified amount of Superflow Green. Wear PPE when adding this chemical. Chemical wash should be 11 – 11.5 PH. Use PH paper to test.
- When the wash cycle has ended, if you were doing an acid wash: Add twice as much baking soda as the chemical was added. Mix the baking soda into the wash tank before draining the water. This will neutralize the acid wash.

Long Rinse

- Run the Long Rinse after the wash cycle. The Long Rinse rinses the membranes, and discards the rinse water. Follow the instructions on the RO panel or in the RO manual to set the valves on the RO for a long rinse cycle.
- The following procedures describe how the RO Operator sets up the RO for concentrating sap the next day.

Membrane Cleaning and Storage

- Membrane performance is benchmarked throughout the season, cleaned with soap after every run and cleaned with citric acid as needed
- Membranes are stored inside RO in the off season at stable temps (never below freezing) with the machine being hot rinsed (no soap) once a month
- Membranes that are not in use are stored in plastic housing filled with permeate

Procedure for cleaning Canner

Wash canner

- Fill canner with water and use yellow scrub brush to wash out canner.
- Drain water from canner and rinse canner with more water.
- Wipe down outside of canner.
- Let air dry
- Fill out cleaning records

Procedure for cleaning Cream Machine

Wash equipment

- When done processing cream, wash machine and equipment with hot water and scrub brush
- Triple rinse and dry
- Fill out cleaning records

Policy on how outside food is separated from food production areas

The following policy describes how Cary and Main Co. separates outside food from maple production.

- All food must be consumed in the specified break area, which is separate from the areas where sap, syrup or confections are processed.
- Everyone must wash their hands prior to going back to work in any sap, syrup or confection processing area.