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# Food Safety & Standard Operating Procedures 2013

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Loon Organics Farm

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**Modified from the U of MN food safety template and  
edited it to fit our operation**

<http://safety.cfans.umn.edu/fsp4u/>

## **Standard Operating Procedures**

<b>STANDARD OPERATING PROCEDURES .....</b>	<b>2</b>
<i>Worker Health and Hygiene.....</i>	<i>3</i>
<i>Proper Hand-washing Technique .....</i>	<i>5</i>
<i>Clothing and Jewelry Policy .....</i>	<i>6</i>
<i>Policy on Taking Breaks .....</i>	<i>7</i>
<i>Toilet and Hand-washing Facilities .....</i>	<i>7</i>
<i>General Food Safety Handling Guidelines .....</i>	<i>7</i>
<i>Vehicles in the production fields .....</i>	<i>9</i>
<i>Fence and Field Inspections .....</i>	<i>10</i>
<i>Manure .....</i>	<i>10</i>
<i>Harvesting Tools, Containers, and Carts.....</i>	<i>12</i>
<i>Storage Cooler .....</i>	<i>13</i>
<i>Packing and Storage House .....</i>	<i>14</i>
<i>Washing/Packing Line.....</i>	<i>15</i>
<i>Rodent and Pest Control .....</i>	<i>16</i>
<i>Loading Delivery Trucks .....</i>	<i>17</i>
<i>Traceback Procedures.....</i>	<i>18</i>

## Worker Health and Hygiene

Employees must adhere to the following guidelines while at work planting, caring for, harvesting, processing, and packing produce:

Handwashing: Everyone must wash their hands before beginning work and returning to work after taking breaks, going to the restroom, eating, smoking, or otherwise compromising the sanitary nature of their hands. Signs in English and the native language of the workers are posted in lavatories, eating areas, and smoking areas to instruct employees to wash their hands before beginning and returning to work.

Restrooms: All toilet/restroom facilities will be clean and properly supplied with single-use towels, toilet paper, and hand soap or anti-bacterial soap and potable water for hand washing. These facilities will be checked on a daily basis.

Smoking and eating will only be allowed in designated areas. These areas are indicated on the farm (or buildings) map. No smoking is allowed in product areas.

First aid procedures: If someone is injured at the farm, either in the office or in the field, there will be a first aid kit available for use in the packshed. Everyone will be notified of the exact location of the first aid kit. The supplies will be checked and updated on a regular basis. Any cut, abrasion, or other injury incurred while working should be dealt with immediately to preserve the health and well-being of the worker and to minimize the risk of contamination to the produce. Employees will immediately notify their supervisor for proper treatment of any cuts, abrasions, or injuries.

Illness: Any employee who is sick will notify Laura or Adam immediately and will not handle fresh produce.

- 1) Employees will report to Laura, Adam, or the employee in charge if they have any of the following symptoms:

Diarrhea

Fever

Vomiting

Jaundice

Sore throat with fever

Lesions containing pus (including boils or infected wounds, however small) on the hand, wrist, or any exposed body part

- 2) Individuals who are exhibiting mild symptoms but are still healthy enough to work will be allowed to do so without contact with produce or s/he will be appropriately covered with adequate bandages or gloves to reduce the risk of contamination.
- 3) If jobs where workers don't contact produce are not available, or it is not possible to adequately reduce the risk of contamination to produce, or the worker is too sick to work, then that employee will be sent home.
- 4) If an employee is recognized as having any of the conditions listed above, these conditions will be recorded on an Illness/Injury Report Form.

Blood and body fluid: If blood or other bodily fluid should ever come in contact with the field or the produce it will be immediately dealt with by whoever finds the contamination. If that person is not able to immediately deal with the contamination, that person will mark the area and immediately notify his/her supervisor who will take appropriate action. If there is blood in the field, all contaminated surfaces will be removed to a plastic bag with a shovel or gloved hands and placed in a trash can. All affected soil will be shoveled up around and under the area and will be removed. Make sure you have either provided first aid or called 911 for the person who is bleeding.

## **Proper Hand-washing Technique**

All employees handling produce for processing or sale will use proper hand-washing techniques before beginning work and after returning to work after taking breaks, going to the restroom, eating, smoking, or otherwise compromising the sanitary nature of their hands.

Proper hand-washing technique includes the following:

Wet hands with clean water (warm is preferred if available), apply soap, and work up a lather.

Rub hands together for at least 20 seconds.

Clean under the nails and between the fingers.

Rub fingertips of each hand in suds on palm of opposite hand.

Rinse under clean, running water.

Dry hands with a single-use towel.

It is important to remember to wash hands after touching any potentially unsanitary surface. When possible, turn off the faucet with the single-use towel instead of directly with the hand (when using a sink and faucet).

Do NOT use a paper towel more than once or share towels with others.

## **Clothing and Jewelry Policy**

Employees will maintain proper hygiene while working. This includes staying clean and wearing clean clothing to work. Soiled clothing is a haven for microorganisms that can be spread easily to hands and produce. Large chains and necklaces will not be allowed in the processing house or in the field for safety and hygiene reasons. Bracelets are not allowed for the same reason. Items that *are* allowed:

Watches

Wedding rings or other fairly simple rings

Necklaces that stay covered by clothing

Unobtrusive earrings that stay near the head and pose no risk to falling out

Other concealed or covered jewelry

Do not keep cell phones or other items in pockets where they are at risk of falling out.

## **Policy on Taking Breaks**

Breaks must be taken in designated areas as assigned by Laura or Adam, generally out of the field, at the field margin, or near the vehicle entrance. Lunches must be eaten and breaks should be taken only in designated areas. Smoking, eating, and other breaks are absolutely prohibited in the packing and storage facilities.

The only personal containers that are allowed in the field at any time are those used for the sole purpose of carrying drinking water for consumption in the field. These must be filled from potable water sources at the work site. The container will be made of resilient plastic. Under no circumstances may glass containers be used in or immediately next to the fields.

Potable water is always available at the house and from farm well pumps.

## **Toilet and Hand-washing Facilities**

Clean and well-maintained toilet and hand-washing facilities are provided for all employees and customers. This includes access to potable water, toilet paper, soap, and single-use towels. The toilet and sinks will be serviced and cleaned on a regular basis and that schedule will be kept on record. Facilities are checked formally at least weekly and informally on a continuing basis and the information will be documented on the Restroom and Field Sanitation Logs. The field toilets are located away from the growing fields and packing/storage house(s).

Cleaning and servicing of the unit may be contracted with a sanitation unit rental company. If this is the case, documentation will be provided by and collected from the contracted company. A representative map will be provided showing where the sanitation unit is located relative to the agricultural plots.

## **General Food Safety Handling Guidelines**

Employees will be trained on the importance of good hygiene and sanitary techniques when working with and around produce. This training will include education in the sources and causes of contamination, hand-washing techniques, equipment sanitation, and other preventative measures.

If an object comes into contact with produce it must be clean, in good working condition, and sanitized or disinfected. This includes, but is not limited to,

hands, harvesting equipment (knives, etc), harvesting totes and boxes, transportation equipment, processing equipment (tables, cooling tubs), and storage equipment.

### **Contingency plan regarding contamination of produce or farm field**

If blood or other bodily fluid should ever come in contact with the field or the produce it will immediately be dealt with by whoever finds the contamination. If that person is not able to immediately deal with the contamination, that person will mark the area and immediately notify his/her supervisor who will take appropriate action. If there is blood in the field, all contaminated surfaces will be removed to a plastic bag with a shovel or gloved hands and placed in a trash can. All affected soil will be shoveled up around and under the area and will be removed. Yes, you have already read this, but it's important enough to say twice!

If produce is contaminated, it will also be placed in a plastic bag by gloved hands and into a secured trash can. If a surface that is used to carry or process the produce (including harvesting equipment or carrying totes) is contaminated, it will immediately be cleaned with soapy water away from any field or other produce and then disinfected with food-grade cleaners available on-site.

Broken glass should also be properly handled, by placing it in a cardboard box, that is sealed, and placed in a secure trash can.

## **Vehicles in the production fields**

All vehicles will be inspected for the following prior to entering the fields:

- interior and exterior cleanliness
- no broken or cracked plastic or glass windows, fixtures, covers, or other parts
- no drippy oil, anti-freeze, or other fluid, petroleum product, or automotive lubricant
- If you are going to be moving produce with a passenger vehicle, there must be no contamination hazards present including food, pet hair, or other items that could compromise the produce.

It is preferred that you only use designated carts, containers, and vehicles for moving produce to the storage shed.

Vehicles may not be driven into produce fields. They must be driven and parked on designated roadways.

## **Gas and Petroleum Spills or Leaks**

Petroleum products of any kind may not be stored or used within the perimeter of the farm fields. Petroleum products must be kept in the machine shed. All refueling must take place away from produce fields to minimize the risk of petroleum contamination to the fields or produce.

Spills of more than five gallons must be reported to the Minnesota Duty Officer by calling (651) 649-5451 or (800) 422-0798.

If gas or oil is spilled in the field, you must immediately stop the spill by turning off valves or plugging the source of the leak. If the source is a tank or any other kind of container and it is punctured, a wooden plug or a bolt can be used to prevent further leaking.

After stopping the source of the spill, the contaminated soil must be removed from the ground and contained in a bucket, pail, or other non-permeable container. All the soil that has visible oil stains or petroleum odor should be dug out and contained. The contaminated soil can be treated on-site or sent away for treatment; what you do will depend on the amount of contaminant and the soil to be treated.

After the cleaning process is finished, you must submit a report of the incident describing the oil that spilled and the amount, how the spill was cleaned, and also the steps that will be taken to prevent future spills. Illustrations or diagrams should be included to show the contaminated area, the excavation of the soil, and the kind of waste that was created.

Detailed instructions can be found at the Minnesota Pollution Control Website, <http://www.pca.state.mn.us/>.

Stop all continuing leaks that can be stopped safely, if this has not already been done!

## **Fence and Field Inspections**

In addition to noting any signs of animal activity while carrying out everyday farming activities, walk through or around the fields daily and note signs of animals passing through or feeding in the fields. Inspect the fence lines at least every two weeks.

Inspecting the fences and fields will include the following:

- Walking the fence line observing any places where the fence may be compromised or in need of repair

- Making sure there are no weaknesses or places where animals are clearly entering and exiting the fields

- Checking to see if any part of the fence needs to be re-baited for deer

- Visually inspecting the fields from the outside to see if there are any noticeable signs of animal presence

- Making notes and taking action on these and any other needs that arise in keeping wild or domesticated animals out of the fields

## **Manure**

Raw manure (uncomposted) is applied and incorporated in the fall when the soil is warm and on a cover crop, not on food crops. Raw manure is on the ground AT LEAST 120 days before harvest.

If the 120-day waiting period is not feasible, only properly composted manure is applied. If composted manure is applied, records are maintained as to the

type of composting (passive or active), composting time, temperature of pile (if active), and microbial testing reports for active treatment.

If storing compost prior to application, the pile is covered to reduce the chance of runoff, leaching, wind spread, or recontamination. If composted manure or treated biosolids are purchased, documentation of analysis reports are received for each shipment and kept with the manure records.

## **Harvesting Tools, Containers, and Carts**

### **Harvest**

Any product that is being moved from the field to the processing and storage house will be covered. Any vehicle or means of moving the harvesting totes to the processing house will be clean and in good repair. The sanitizer Oxidate is used to sanitize harvest totes, tools, hard surfaces in the pack shed or any other hard service that needs to be cleaned and disinfected. **Disinfection instructions:** Use a dilution of ½ fluid ounce per gallon of clean water. You must be trained by Laura or Adam on the proper handling of the sanitizer and solution.

### **Harvesting totes/containers**

The harvest containers are kept in good repair and damaged ones are immediately discarded. Harvesting totes will be cleaned and disinfected before each harvest season and whenever needed. There should not be any dirt or other debris allowed to accumulate in any container.

Harvesting totes will not be used for carrying anything but produce. If something other than produce is placed in a harvesting tote, that tote must be cleaned or disinfected. Totes not in use will be stored in a clean and secure location.

### **Garden Cart**

Check the garden carts daily for cleanliness. The harvest/garden carts used for carrying cases of produce out of the field will be cleaned weekly or more often as needed. This cleaning and inspection will be recorded in a garden cart maintenance log.

### **Harvesting Tools**

Any tool, such as a knife, used to harvest produce will be cleaned and disinfected before use each day. This tool must be logged as *in use and*

*disinfected* in the tool log book. If this is not done, that tool may not be used for harvesting.

**Pallets and boxes**

Pallets and containers will be inspected and cleaned (if necessary) prior to use. Pack-out boxes are stored, covered, and isolated to minimize access by rodents or birds.

## Storage Cooler

Storage cooler temperatures will be checked and logged two times per day. Problems will be addressed immediately. Multiple thermometers can be used to assure correct temperatures. An example of a Cooler Temperature Log Sheet follows.

The cooler thermometer will also be calibrated on a monthly basis to ensure a reliable and accurate reading.<sup>1</sup> The calibration will be recorded in the calibration log.

The cooler will also be cleaned on a monthly basis or sooner if needed. This cleaning will be recorded in the log and kept on file for one year.

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### <sup>1</sup> A note on calibration of the thermometer

This information on thermometer calibration is brought from "Food Store Sanitation", 1998, Sixth Edition, Gravani, Robert B., Rishoi, Don C., Cornell University Food Industry Management Distance Education Program, Lebharr-Friedman Books, Chain Store Publishing Corp.

#### Melting point of ice method

Place ice in a container and let it melt.

Stir to make sure that the temperature in the ice/water mixture is uniform throughout the container.

When the ice is partially melted and the container is filled with a 50/50 ice and water solution, insert the thermometer and wait until the needle indicator stabilizes. The thermometer should be 32°F (0°C).

If the thermometer is not reading 32°F (0°C), it should be adjusted by holding the head of the thermometer firmly and using a small wrench to turn the calibration (hex) nut under the head until the indicator reads 32°F (0°C).

An important item to remember as you are calibrating your thermometer using the melting point of ice method is to never add tap water to ice because this will *not* be 32°F (0°C) but will be at a higher temperature. The calibration will be much more accurate if you use melting ice.

## **Packing and Storage House**

The Packing and Storage House will be accessed by authorized and trained personnel only. This is to minimize microbial contamination routes.

The packing and storage facilities will be clean and orderly before and after use. A thorough cleaning will happen on a weekly basis or as needed and this will be recorded on the Storage Cleaning Log. Only food-grade cleaners may be used in cleaning either the processing surfaces or the storage cooler. No non-food-grade chemicals may be present near the flow lines but will have their own storage area separate from the processing line.

Produce dropped between the field and the processing house or inside of the processing house will be thrown out. If the produce is whole and undamaged by the fall, it may be washed separately and returned to the product flow if there is no risk that it has been contaminated by non-food grade substances (such as petroleum distillates or non-food grade cleaning chemicals).

## **Washing/Packing Line**

Source water used in the packing of fresh fruits and vegetables, either for washing or as a way to disinfect produce or apply waxes, must be potable and is from our farm well. Copies of the water test results are obtained yearly and kept with the water records. Surface water (ponds, lakes, streams, etc.) is not considered potable for a packinghouse and is not used.

Wash water is reused as little as possible and quality is maintained by:

- Periodic water sampling and microbial testing
- Changing water as required to maintain sanitary conditions
- Developing standard operating procedures for water quality
- Cleaning and sanitizing water contact surfaces including dump tanks, flumes, and wash tanks on a regular schedule
- Installing backflow devices and air gaps to prevent contamination of clean water
- Inspecting and maintaining equipment designed to assist in maintaining water quality

At the end of each day, packing areas are cleaned. The washing, grading, sorting, and packing lines are cleaned and sanitized as well.

The best way to reduce pathogens is to keep them off the produce in the first place. Once a product is contaminated, it is very easy for this contamination to be transferred.

Tsunami 100, an organically approved sanitizer is used in wash water at concentrations between 2.5-6.7 fluid ounces per 100 gallons of wash water. Typically we use 50 gallon water tanks and 2 fluid ounces of Tsunami to reach concentrations between 215-575 ppm with a contact time of 1.5 minutes.

Ice or cold water (hydrocooling) is often used to reduce the temperature of a product. Water used for this must be potable in order to reduce the risk of food contamination. Farm well water is tested annually for fecal coliform and E. coli.

## **Rodent and Pest Control**

Farm operations are inevitably subject to animal and pest infiltration. You must do your best to keep pest problems under control. Traps and other methods of control will be inspected on a regular basis. Employees will be diligent in reporting any signs of infestation in the field or processing and storage areas. Special attention will be paid to the processing and storage facility due to the permeability of the structure. If this permeability becomes a pest problem, a plan to deal with the cracks and holes will be developed at that time.

## **Loading Delivery Trucks**

Delivery trucks and vehicles will be inspected for odors and visually inspected for signs of unsanitary transport conditions. Equipment will be cleaned and sanitized (if necessary) before produce is loaded.

Invoices and shipment manifests will be kept on file for the period of one year. Proper transport temperatures will be maintained and printed on manifests to ensure the quality and safety of the product.

Produce items will not be loaded with potentially contaminating products. Produce will be loaded carefully so that risk of damage will be minimized. Only employees who are trained in loading produce out of the storage cooler and onto trucks will be allowed to do so.

## **Traceback Procedures**

In the event that it is proven that our product is the source of an outbreak of foodborne illness, we can effectively identify the source of contamination through our trace back system.

Each handler will have a sticker that they will place on every case of produce packed signifying:

- The quantity of produce in the box
- The field it came from
- The date it was harvested and packed
- The date of shipment

The traceback codes will be traceable on invoices delivered to the customers by date identification. Each date code label will correspond to a certain harvest period, person, and field.



