

Hazelnut Industry Good Agricultural Practices Manual



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Oregon Hazelnut Commission

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Overview

Purpose

The purpose of this industry document is to provide guidance to hazelnut growers to ensure the hazelnuts delivered to the washer/dryer operator or the processor, have as low a risk of microbial or physical contamination as is practicable. This document allows growers to adapt practices that are applicable and scalable to their specific operations.

This document is also meant to provide information to the regulatory community about activities hazelnut growers perform to ensure safe product.

The Industry

The Oregon hazelnut industry, which is 99% of the U.S. commercial hazelnut industry, began with a single orchard planting in 1905. Those trees are still in commercial production. Many orchards produce for a very long time. To be sustainable, growers have employed many different cultural practices for different orchards, and even within one orchard. To achieve longevity with one crop, notably hazelnuts, the grower must balance the needs for healthy soils, beneficial insects, tree nutrition, disease and insect damage control with outside forces like the weather, other agricultural crops, or even streamside ecosystems which may be the environment that surrounds the orchard. Since hazelnut trees are grown commercially only in the Willamette Valley of Oregon, the environment surrounding the orchards is often urban, which adds yet another dimension.

Many of the 650 growers of hazelnuts are third and fourth generation orchardists. They have developed a tremendous capacity for working within each unique hazelnut orchard ecosystem to remain productive and sustainable.

Very few bearing orchards are irrigated. Growers have found irrigation is a benefit for orchards in the first few years of establishment. In all cases, irrigation is over for the year well before nuts begin to drop. Thus routine testing of irrigation water is not necessary to ensure food safety.

The hazelnut orchard environment attracts wildlife. Growers employ practices to minimize predation and damage to the orchard when necessary. A healthy population of some animals and birds, such as raptors and starlings is important for pest control and to enhance the sustainability of the orchard. Growers do not commonly graze livestock in their orchards; if they do, they do not graze livestock during the growing or harvest seasons.

Some growers use an early spring or late fall / post harvest manure application as an amendment in their soil and tree nutrient programs. The hazelnut cropping system precludes any soil amendment applications after June 1 as the orchard floors are cleaned throughout the summer to assure a smooth clean orchard floor during harvest.

Of utmost importance to all growers is the need to deliver hazelnuts to the dryer or processor as clean as possible. Not only is this the basis for delivering safe food to the end user, it also is the system upon which growers are paid. They strive to harvest as much of the crop as possible in the dry season. The hazelnut lends itself to inherent food safety simply because it is encased in a solid hard shell. It falls to the ground mostly free of the husk, which is a vegetative bract rather than a sugary attraction for microbes.

Harvest also lends itself to ensuring safe product. Harvest is mechanical and there are no “touch points” as there are in foods that are more labor intensive. Most of the orchards are harvested by family members with very few hired workers. In addition, the product delivered to the washer / dryer or the processor is not ready to eat. It will go through a wash process before it is dried.

Growers are committed to employing practices to keep the risk of pathogen contamination as low as practicable. As the nuts move to processors and packers more safeguards are in place to ensure safe product leaves their plants.

*The industry is regulated by the Oregon OSHA, ODA and the DEQ.
This guidance document will reference these regulations.*

General Farm Activities

- GF-1 A documented farm food safety program that incorporates GAPs has been implemented.
- GF-2 The operation has designated someone to implement and oversee the established food safety program.
- GF-3 Growers are given a delivery ticket that includes date and time of delivery for each load when it is delivered to a wash/dryer operator or a processor. This ticket corresponds to a specific orchard.

EMPLOYEES & SANITATION ^{1/}

- ES-1 Potable water, suitably cool and in sufficient amounts, is immediately available to meet the needs of all workers as required by the Oregon OSHA regulations. Water is dispensed in single-use drinking cups or by angle jet fountains. Common drinking cups or dippers are not used.
- ES-2 All employees and all visitors to the farm are required to follow proper sanitation and hygiene practices as required by Oregon OSHA.
- ES-3 Training on proper sanitation and hygiene practices is provided to all employees.
- ES-4 Readily understandable signs are posted instructing employees to wash their hands before beginning or returning to work.
- ES-5 All toilet/restroom/field sanitation facilities are clean. They are properly supplied with single-use towels, toilet paper, hand soap or antibacterial soap, and potable water for hand washing.
- ES-6 All toilet/restroom/field sanitation facilities are serviced and cleaned on a scheduled basis.
- ES-7 Smoking and eating should not occur on orchard floor when nuts are on the ground.
- ES-8 Workers are instructed to seek prompt treatment with clean first aid supplies for cuts, abrasions and other injuries. Product coming in contact with blood or bodily fluids will be properly disposed. ^{2/}
- ES-9 Employees with a communicable disease will not work in nut handling areas per Federal Law 7 Title 21, CFR, 110.10. ^{3/}

^{1/} Reference: Oregon OSHA regulations "Division 4/J 437-004-1110 Field Sanitation for Hand Labor Work"
http://www.osha.oregon.gov/pdf/rules/division_4/div4j.pdf
Specifically: ES-1 See 437-004-1110(5) ES-3 See 437-004-1110(9) ES-4 See 437-004-1110(8)
 ES-5 See 437-004-1110(6) ES-6 See 437-004-1110(7)

^{2/} Reference: Division 4/K: 437-004-1305 "Medical Services and First Aid"
http://www.osha.oregon.gov/pdf/rules/division_4/div4k.pdf

^{3/} Reference: <http://www.accessdata.fda.gov/scripts/cdrh/cfdocs/cfcfr/CFRSearch.cfm?fr=110.10>

ES-10 Company personnel or contracted personnel that apply restricted use pesticides are certified or work under the direct supervision of a licensed private or commercial pesticide applicator. Company personnel or contracted personnel applying any pesticide product have been trained on its proper use. If any pesticides with Agricultural Use Requirements are used, all personnel must comply with the requirements of the pesticide Worker Protection Standard ^{4/}

Orchard Activities

WATER USE ^{5/}

Runoff from septic, lagoons, or municipal or commercial sewage treatment facilities are kept out of orchards as prescribed by the Department of Environmental Quality.

Irrigation water meets standards set by the Department of Environmental Quality.

ANIMALS

Crop production areas are observed for the presence or signs of wild or domestic animals during routine work in the orchards.

MANURE AND MUNICIPAL BIOSOLIDS

M-1 If raw (animal) manure is applied, it is applied a minimum of nine months prior to harvest. ^{6/}

M-2 Manure is properly stored prior to use. If stored adjacent to crop production areas, the farm food safety plan will address issues to prevent cross contamination.

M-3 All untreated manure is stored on the farm to ensure against leaching, runoff and vector control.

M-4 Use of municipal biosolids, whether Class A or B, is applied as prescribed by the Department of Environmental Quality. ^{7/}

SOILS

Each production area is identified or coded.

^{4/} Reference: “ODA Pesticide Division” <http://oregon.gov/ODA/PEST/index.shtml> and “Oregon OSHA Worker Protection Standard” http://www.osha.oregon.gov/pdf/rules/division_4/div4w.pdf

^{5/} Reference: OAR Division 50:340-055 http://arcweb.sos.state.or.us/rules/OARs_300/OAR_340/340_055.html

^{6/} Reference: Proposed Rule CFR 21 Part 112.56 (as of 8/12/2013)

^{7/} Reference: OAR Division 50: 340-050 http://arcweb.sos.state.or.us/rules/OARs_300/OAR_340/340_050.html

Harvest Activities

- H-1 A pre-harvest assessment is made in the orchards. Risks and possible sources of crop contamination are noted and assessed.
- H-2 The number, condition and placement of field sanitation units comply with Division 4/J: 437-004-1110 Field Sanitation for Hand Labor Work ^{8/} and the requirements of the Oregon Department of Environmental Quality. ^{9/}
 - H-2-a Toilet facilities must be available for workers.
 - H-2-b Field sanitation units are located in a location that minimizes the potential risk for product contamination and are directly accessible for servicing.
 - H-2-c A response plan is in place in the event of a spill or leak of field sanitation units or toilet facilities.
- H-3 All harvesting containers and bulk hauling vehicles that come in direct contact with product are visually inspected prior to each use.
- H-4 There is a written policy for scheduled cleaning and maintenance of harvest containers in the farm plan.
- H-5 Damaged containers are properly repaired or disposed of and there is a written policy in the farm plan for the procedures for damaged or dirty containers that cannot be cleaned. If these containers are used as refuse receptacles, they must be prominently marked for this purpose so that workers do not accidentally use them for carrying nuts.
- H-6 Harvesting equipment and/or machinery that come into contact with product is in good repair.
- H-7 In the case of product contamination by chemicals, petroleum, pesticides, or other contaminating factors, product is separated and disposed of appropriately.
- H-8 Harvesting containers, totes, etc. are not used for carrying or storing non-produce items during the harvest season, and farm workers are instructed in this policy.
- H-9 Efforts are made to remove excessive dirt and mud from product and/or containers during harvest.
- H-10 Transportation equipment used to move product from field to storage areas or storage areas to processing plant which comes into contact with product is clean and in good repair.
- H-11 Growers receive a delivery ticket for each load taken to a wash/dryer operator or a processor. This ticket corresponds to a specific orchard.

^{8/} Reference Oregon OSHA http://www.osha.oregon.gov/pdf/rules/division_4/div4j.pdf

^{9/} Reference OAR 340-073 http://arcweb.sos.state.or.us/rules/OARs_300/OAR_340/340_073.html

SAMPLE FARM FOOD SAFETY PLAN

The following is a sample Farm Food Safety Plan developed by the Oregon Hazelnut Commission. It can be modified to fit your operation to help ensure hazelnut industry accepted Good Agricultural Practices are being followed. Underlined segments should be filled in with you specific farm information. The plan is available in word format at www.oregonhazelnuts.org in the Food Safety section of the Growers Corner.

FARM FOOD SAFETY PLAN FOR Farm Name:

SANITATION STANDARD OPERATING PROCEDURES

At Farm Name: food safety is an integral part of our entire operation and taken very seriously. Person in charge: has been designated to oversee and implement our food safety program.

This food safety program of standard operating procedures addresses several areas of an agricultural operation, including land, water, manure practices, pesticides, equipment and worker health and hygiene.

GENERAL OPERATIONAL PROCEDURES

Worker Health and Hygiene

All employees are trained in and must follow good hygiene practices. [*Indicate when this training takes place – for example: This training takes place during orientation for new employees and before harvest season for all returning employees.*]

Company food safety policies should be followed by everybody, including visitors.

Proper Hand Washing

People who directly contact product must wash their hands before beginning or returning to work, and after the following activities: Using the restrooms, smoking or tobacco use, taking breaks, handling trash containers or disposing of trash, using the telephone, handling money, coughing and sneezing.

Illness and Accident Procedures

Any employee who is ill or appears to be ill with a possible communicable disease will be sent home or assigned work away from harvest production areas and harvested nuts.

Employees with open wounds or cuts must have them bandaged. If employees obtain a wound, cut or have a nosebleed while working, they need to stop working immediately, contact their supervisor, and have it attended to. Contaminated areas will be cleaned and disinfected as soon as possible. All product that has come into contact with any blood or other potentially infectious material will be discarded.

All other possible accidents, such as leakage or damage to a restroom or sanitation facility will be attended to as soon as possible and contaminated soil around facility will be removed and properly disposed of.

All workers are aware of the location of first aid supplies and what steps they should take in case of a first aid emergency:

- ✓ Stop work
- ✓ Attend to the needed first aid,
- ✓ Avoid contact with blood or other bodily fluids
- ✓ Avoid contamination of product
- ✓ Wash hands before returning to work.

General Sanitation

Good sanitation of restroom facilities includes the following:

- Adhere to a schedule for cleaning. *Include your specific plan for restroom sanitation. For example: The restroom facilities are cleaned once per week and Mr. Ennis ensures this is done.* [See requirements in Division 4/j: 437-004-1110(6) & (7) http://www.osha.oregon.gov/pdf/rules/division_4/div4j.pdf]
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- Wash walls from top to bottom, as needed.
- Sanitize toilets, urinals, doorknobs, and any other surface inside unit.
- Fill paper products and soap dispensers.
- Remove trash to dumpster.
- Brushes and any other cleaning utensils used to clean the restrooms must be identified for this use and stored separately from brushes, or any other cleaning utensil used to clean the equipment, utensils, etc.

Chemicals [See requirements in Division 4/z:437-004-9800 Hazard Communication http://www.osha.oregon.gov/pdf/rules/division_4/div4z.pdf]

Employees who may be exposed to chemicals must be familiar with the labels of the products and have access to Material Safety Data Sheets (MSDSs) for each product. Precautionary statements and handling instructions must be strictly adhered to. Oregon OSHA requires that all agricultural employees be provided with the information in Publication #1951: *Safe Practices When Working Around Agricultural Chemicals* <http://www.oro sha.org/pdf/pubs/1951e.pdf>

For additional training requirements for seasonal workers and those who perform only hand labor operations, see Division 4/c: 437-004-0240 http://www.osha.oregon.gov/pdf/rules/division_4/div4c.pdf

Pesticide Use [Also see requirements in Division 4/w: 437-004-6000, Worker Protection Standard http://www.osha.oregon.gov/pdf/rules/division_4/div4w.pdf]

Only employees licensed by the State of Oregon Department of Agriculture for pesticide application or employees under the supervision of a licensed applicator, may apply restricted-use chemicals. Only those chemicals that are lawfully registered under the Federal Insecticide, Fungicide, and Rodenticide Act and other applicable state law are used on this operation and applied according to label.

Employees handling Agricultural Use Pesticides must be trained according to the requirements in the Worker Protection Standard.

FARM PROCEDURES

Water Usage

All drinking and hand washing water is potable.

The farm sewage treatment is known to be functioning properly and there is no evidence of leaking or runoff. Additionally, there is no municipal/commercial sewage treatment facility adjacent to the farm that poses a risk for product contamination.

Wildlife and Livestock

Observations of the presence of animals are made during routine orchard tasks such as pruning, spraying and flailing. Often these tasks discourage wildlife from going into the orchard. Subsequent actions that are employed for control purposes are specific to the animal involved and are recorded.

Reasonable effort is made to exclude domestic animals from crop production areas during the growing and harvesting season.

Manure Management *[select one of the following to put into your plan]*

Farm Name: _____ uses Extension Bulletin No.: _____ to help determine the timing, method of delivery and volume of manure to apply.

Farm Name: _____ does not use any manure or municipal biosolids in its operation.

Farm Name: _____ applies raw manure to its production fields at least nine months prior to harvest.

Farm Name: _____ uses composted manure that is purchased from [*name of provider, for example: DEF COMPOST*] _____, please find the treatment documentation from the company attached herein. A manure application log is attached to this food safety plan that documents all applications, their treatment method and any supporting documentation.

Farm Name: _____ uses municipal biosolids as prescribed by the Department of Environmental Quality. See http://arcweb.sos.state.or.us/rules/OARs_300/OAR_340/340_050.html

Land and Soil

Please see attached map and testing results for a comprehensive review of soil contamination risk and planting plans.

During the past [specify number of years, months or days, for example: 5 years] _____, no domestic sewage, sewage sludge, septic waste, portable toilet waste, or other product that might contain human feces has been placed on or adjacent to any crop production areas.

During the 3 months prior to harvest, no flooding from creeks or rivers has occurred on any part of the land.

HARVEST PROCEDURES

Worker Sanitation and Hygiene

All employees and visitors must follow proper health and hygiene practices and use restroom facilities provided. They are equipped with hand-washing facilities with potable running water, single use hand towels, toilet paper and hand soap and are maintained on a scheduled basis that is indicated on the unit, or more frequently as necessary. If restroom facilities are not properly maintained, any employee or visitor should notify the onsite supervisor.

Oregon OSHA defines required field sanitation practices under *Division 4/j: 437-004-1110*. These rules apply to any agricultural establishment where employees do hand-labor operations in the field. Sanitation units must be provided under the following conditions:

1. Toilet and hand washing facilities:
 - a. One (1) toilet facility and one (1) hand washing facility shall be provided for each twenty (20) employees or fraction thereof.
 - b. Toilet facilities shall be adequately ventilated, appropriately screened, have self-closing doors that can be closed and latched from the inside and shall be constructed to insure privacy.
 - c. Toilet and hand washing facilities shall be accessibly located and in close proximity to each other. The facilities shall be located no more than a 5-minute or a 1/4-mile (1,320 feet) unobstructed walk of each hand laborer's place of work in the field.
 - d. Where due to terrain it is not feasible to locate facilities as required above, the facilities shall be located at the point of closest vehicular access.

2. Maintenance. Potable drinking water and toilet hand washing facilities shall be maintained in accordance with appropriate public health sanitation practices, including the following:
 - a. Toilet facilities shall be operational and maintained in clean and sanitary condition.
 - b. Hand washing facilities shall be refilled with potable water as necessary to ensure an adequate supply and shall be maintained in a clean and sanitary condition.

Field sanitation units are directly accessible for servicing and directly accessible in the event of a spill or major leak. In the event of a major spill or leak of field sanitation units, a response plan is in place. The area will be secured and contaminated soil will be removed from the production area and properly disposed.

Equipment

All harvesting equipment is cleaned and washed before harvest. During harvest Employees shall not use totes for personal use or to carry any non-produce items that could contaminate the nuts.

During harvest, equipment will be as clean as practicable, maintained to prevent contamination from leaking oil, grease, loose parts, and any other source of foreign material contamination.

If nuts become contaminated with oil, grease, or any other hazardous substance, all contaminated nuts will be properly disposed.

Each tote is inspected prior to loading it with nuts.

If a tote becomes too damaged for use or cannot be cleaned it will be properly disposed. If it is used as a refuse receptacle, it will be clearly marked as such.

Transportation

Vehicles transporting product must not be contaminated by domestic sewage, manure, or hazardous material. Vehicles or containers that come into direct contact with product during harvest are not used to haul any other products that could contaminate the nuts.