

Food Safety for the Packing Shed

“Food safety is not just a legal responsibility, but a moral and ethical obligation you have with your customers.” – Chris Blanchard, Rock Spring Farm

The market farmer occupies a rarified niche in the world of food handling, because she takes a raw product (vegetables) through its final step without heating, freezing, or otherwise transforming it before it gets consumed by the customer, often in its raw state.

In the last twenty years, hygienists have come to recognize the importance of the fecal-to-oral route of contamination in food safety. Food safety in the packing shed comes down to one very simple dictum: don't let manure get on the food. The trick lies in recognizing all of the routes manure can take to get on the food, or on surfaces that come in contact with the food, as well as an awareness of the very-small amounts of contamination required to cause a food-borne illness.

The following eight areas can be addressed by any grower, at any scale, and make a significant difference in the likelihood of a contamination issue arising. Although food safety directives repeatedly address actions by farm workers and employees, the farmer also needs to take care to follow these directives.

Hand Washing

Hand sanitation in the bathroom and in the packing shed is a must; the absence of a handwashing sink creates an additional burden on management and employees alike to guarantee the cleanliness of hands that come in contact with the produce. A dedicated handwash sink should be established outside of the bathroom to facilitate handwashing at other times.

A simple handwashing area can be created with a small, instant electric water heater, a basin, and a soap dispenser for under \$500; while warm water isn't necessary to soap's effectiveness, it does increase the likelihood that workers will scrub their hands for the recommended twenty seconds.

A dedicated handwashing sink insures that contaminants are not spread to produce, washing containers, or tools through cross contamination.

Sick Employees

Vomiting and diarrhea are almost always a result of food poisoning, so employees who exhibit these symptoms should not work with food.

Vomiting and diarrhea are, by definition, explosive events, resulting in the aerosolizing of the material and the pathogens it carries. In the same way that a falling raindrop can aerosolize plant-disease organisms onto leaves several

feet up the plant, these explosive events can move pathogens in microscopic quantities to places unlikely to be sanitized through simple handwashing.

A policy should be established in writing, and signed by employees, that they will not work when they exhibit these symptoms. Having non-food activities available when employees are exhibiting symptoms but are not too sick to work makes it more likely that they will comply with this policy.

Animals in the Packing House

Domestic and wild animals both present a significant source of contamination. Domestic animals are often overlooked for their contamination potential, but we only have to consider what dogs roll in and how cats clean themselves to realize that they present a significant risk. Pets should not be allowed into the packing area, and contact with pets should be followed by thorough handwashing before handling food.

A four-season packing shed, with walls and doors, makes it easy to keep rodents and birds out. A more seasonal shed, open to the elements, needs to take steps to reduce its attractiveness to animals

Food and water should be cleaned up at the end of each day. Food waste is an invitation to all kinds of four-legged trouble. A concrete slab for packing produce makes it easy to clean up stray leaves and bits that have escaped over a day of packing. Provision should be made to move water away from the packing area, as standing water attracts rodents.

Open sheds and lean-tos frequently have exposed rafters which are attractive to birds. A variety of commercial anti-roosting devices are available, and bird netting can be stapled under the rafters. By the time you spot a nest, the potential for contamination is already well underway.

Vegetable waste should be secured from rodents and removed from the packing area on a frequent-enough basis to avoid being an attractant to insects.

When closing down a packing operation for the winter, producers should take care to deny critters a home during the off months. Simple steps like raising shelter, such as an overturned wash tank, six inches off the ground, can make a space much less attractive to rodents.

Cleaning and Sanitizing

Cleaning and sanitizing is a four-step process: rinse, clean, rinse, and sanitize. Rinse first to remove organic matter and debris, then clean with elbow grease and detergent. Rinse again to remove the detergent, which can inactivate many sanitizers. Then apply sanitizer.

Detergents and sanitizers suitable for commercial use can usually be sourced at a dairy supply house.

Cleaning and sanitizing should be done at the end of each day to stop microbial growth. Sanitizing should be repeated before work starts the next day, with cleaning as necessary.

Water Testing

Water should be tested quarterly when the packing shed is in use. Water sampling kits can be ordered from

<http://www.uhl.uiowa.edu/services/wellwater/ordering.xml>

Surface water should never be used in post-harvest operations.

Clothing Contamination

Because farmers live in a world of dirt, and because dirt comes from the ground, farm workers have the constant potential to contaminate food with their clothes. A little bit of consciousness can go a long way. Surface dirt should be removed from boots before working in the packing shed.

Employees can bring contamination into the packing shed from their own farms as well as from domestic animals, and they should be encouraged or required to wear clean clothes to work.

At work, aprons and rain gear in the packing shed not only protect workers from moisture, they protect the food from potential contamination.

Farm workers should not move from animal husbandry to vegetables. If it can't be avoided, they should at least change clothes between activities, or take protective measures such as wearing coveralls when working with livestock.

Functions Separation

A fundamental tenet of food processing is the separation of get-it-clean functions from keep-it-clean functions. This can be duplicated in the packing shed by increasing the linearity of the flow of produce from dirty to clean; in other words, vegetables should travel in a straight line in the packing shed whenever possible, rather than in a circle, to create a separation between clean and dirty produce.

If possible, packaging operations, such as bagging, should be far removed from cleaning and sorting operations, preferably in a separate room.

Recall System

In the event of a worst-case scenario, growers should have a mechanism in place to recall their product. Outbound product destined for retail stores, warehouses, and restaurants should be clearly labeled with the farm's name and contact information. A lot code should track back to packing records, which should track back to harvest records. This record keeping system does not need to be complex, and it certainly doesn't need to be computerized.

At Rock Spring Farm, the lot code consists of a four-digit code using the last digit of the year (9 for 2009) and three digits for the day of the year. This code signifies the day the product was packed. All packing information is tracked on a log in the packing shed, and includes the harvest code of the crop; all harvest information is likewise tracked via a paper log.

Invoicing should track who product was sold to, so that in the event of a food-borne illness event, product can be recalled or discarded.