FCS8843

UF UNIVERSITY of FLORIDA
IFAS Extension

Small Farm Food Safety, Fresh Produce: Part 2 - The Buck Stops Here[1]

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Time Required: 25 minutes

Materials for Trainer

- The four scenarios included in this document.

Advance Preparation for Trainer

- Review "Guide to Minimize Microbial Food Safety Hazards for Fresh Fruits and Vegetables," U.S. Dept. of Health and Human Services, Food and Drug Administration, Center for Food Safety and Applied Nutrition, October 1998.
- Review each scenario.

Handouts for Participants

- None

Objectives

Application objective: Participants should understand the risks that growers face from lawsuits connected to microbial contamination.

Learning objective: To understand some of the possible points of contamination that exist throughout production and distribution.

Procedure

This activity uses four scenarios that describe situations in which microbial contamination has harmed people's health. Each scenario examines how a person became ill and who could be at fault. The objectives of this exercise are to introduce major food safety concerns that producers need to address and to encourage participants to think about the potential consequences of poor on-farm food safety practices.

1. Tell the participants to take notes as you present the scenarios.
2. Read Scenario 1 to the group.
3. This is a large-group exercise. Call on individuals to answer the questions that follow the scenario. We have provided a list of key points about the scenario. If the participants fail to make any of these key points, raise them yourself.

1. This document is FCS8843, one of a series of the Family Youth and Community Sciences Department, Florida Cooperative Extension Service, Institute of Food and Agricultural Sciences, University of Florida. Original publication date October 5, 2007. Visit the EDIS Web Site at http://edis.ifas.ufl.edu.
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4. Repeat for each of the four scenarios.

Scenario 1: One Halibut Time

In November 2005, Elaine McElroy became ill three days after a meal at a local seafood restaurant known as the Boat Shed. Ms. McElroy did not recover until she had spent many days in the hospital and received multiple blood transfusions.

Before she was even discharged from the hospital, her lawyer had begun the investigation and pondered the question, “Whom should we sue and, more importantly, should we seek one million dollars or two?” The hunt for the culprit began.

First stop: the restaurant. The lawyer's investigation of the Boat Shed restaurant showed, to his disappointment, that Ms. McElroy's meal of baked halibut, French fries and cole slaw seemed to be properly prepared. The workers practiced good hygiene and the food was fresh and stored in a properly chilled cooler.

Further, the local health department soon determined that her case was not isolated. At least 10 other people in the community, dining at the same and other establishments, became ill and had similar symptoms. Stool samples from all of the infected people showed an infection of *E. coli* 0157:H7. They had not all eaten at the same restaurant. They all had different meals. The one common factor was that all of their plates contained uncooked parsley as a garnish.

Second stop: the distributor. Four restaurants were involved. They did share a common parsley supplier, Cal Farms, and three of them shared a common distributor, Fresh Tomato Transport Company (FTTC). The lawyer for Ms. McElroy took a hard look at the practices of Fresh Tomato Transport. He found that their delivery service uses a fleet of 5 refrigerator trucks for same-day local deliveries. FTTC's procedure is to handle the produce as little as possible. They require that all pick-ups are boxed and ready for delivery. The lawyer moved on to the parsley supplier.

Third stop: the farmer. Three of the establishments received their parsley from FTTC, but one restaurant, The Olive Orchard, is only two miles from Cal Farms. A farm employee delivered their parsley early in the morning in the back of a pickup. Cal Farms is a 25-acre fruit and vegetable farm that sells to restaurants and wholesalers. Twenty acres of the farm are in production and five acres are pasture for horses. The farm is family-owned, employs ten workers and grows a variety of vegetables and greens. They use drip irrigation with water from an on-farm pond and fertilize with synthetic fertilizer.

Questions for scenario 1:

Who will be sued?

1. It is unlikely that all of the restaurants involved created the same problem.

2. The distributor seems to handle the produce very little, the trucks are refrigerated, and they provide same-day delivery.

3. Therefore, the farmer is most likely at fault, because the most apparent source of contamination is the irrigation water.

What are the possible food safety concerns on this farm?

1. The pond that provides irrigation water is above-ground, a risk for contamination of various sorts.

2. Animals (horses) are in close proximity to the land for vegetable production.

3. The farmer may use pond water to wash the vegetables. This is unclear in the scenario, but is something that the participants should question.

4. The scenario does not describe how well employees on the farm are trained. This is another point that the participants should question.

Which of the four principles of food safety need to be applied by this farmer? What does he need to do?

Prevention. The farmer should anticipate the potential for contamination of the water supply and keep manure from the horses away from his vegetable crops.

Accountability. The farmer needs to understand that he is accountable for all of the inputs and procedures that he uses on his farm. “I never thought about that” will not get him very far in a court of law.

Control. The farmer may not have thought about his horses being related to his vegetable production in any way. However, they are under his control and he needs to be aware that every aspect of his farm comes into play in food safety.

Education. The scenario does not discuss the farmer's approach to educating his employees and family member. He needs to have an educational program for them.

Scenario 2: Food-borne Illness...The World's Worst Birthday Gift

In January 2003, the four members of the Lemke family had a lovely dinner out to celebrate the birthday of their youngest son, Mark. They ate at Mark's favorite restaurant, Al's Pizza Palace. Later that night they all became very ill. They all suffered from severe stomach pain, nausea and diarrhea. The health department confirmed that all were exposed to salmonella, but it was difficult to determine the precise source. Needless to say, they hired a lawyer.

First stop: the restaurant. All four family members shared the same meal, a large supreme pizza and a family-sized garden salad with ranch dressing. The pizza and its toppings of pepperoni, black olives, and pineapple were baked in an oven for ten minutes at 600 degrees. The family-sized salad was served from the kitchen. The greens and garnishes were taken directly from cold storage. The lawyer could never pin down whether the salad dressing was refrigerated at all times or not.

Second stop: the farmer. A local producer supplied the produce for the salad. Paul's Organics provided romaine lettuce, sweet onions and cherry tomatoes. Paul's Organics is a five-acre operation that sells vegetables to restaurants and at the local farmer's market. Paul has a deep well for irrigation and uses municipal water for cleaning and processing. He applies composted chicken manure for fertilizer. There are no animals on his farm.

Questions for scenario 2:

Who is most likely at fault in this case?

1. Paul's Organics does not seem to have any very apparent concerns, although it is possible that he does not store and use the composted chicken manure correctly.

2. All of the reported illnesses occurred in one restaurant, but Paul sells to many buyers.

3. Therefore, the restaurant is the probable source of contamination.

4. The ranch dressing is a big suspect because it is susceptible to contamination (since it is a nonacid-based dairy product). It is the most likely source of the contamination, and may have been exposed to unsafe food handling practices in the restaurant. It is especially suspicious that the lawyer could not determine whether the dressing was kept refrigerated at all times.

How do the four principles of food safety apply to the farm in this case?

Prevention. The farmer seems to be practicing prevention. He has a deep well for irrigation and uses municipal water to wash and process the vegetables.

Accountability. There are no apparent ways for the farmer to improve accountability.

Control. The practices of the restaurant are out of the farmer's control and there is no realistic way to enhance his control over what they do.

Education. The scenario does not describe the farmer's educational practices. There may or may not be a problem.

Scenario 3: Bear Market Blues

There were nine reported cases of food poisoning, mostly children, linked to the *Shigella* bacteria in the town of Marion. An investigation showed that at least seven of the cases could be traced to vegetables that were purchased at a local vegetable market. This market has a variety of vendors, some of whom are not farmers. The families involved got together and hired a lawyer.

First stop: the farmer. A bag of salad mix sold by Ranco Produce Distributor was potentially linked to the outbreak. Ranco purchased the salad mix from nearby Lovell Farms. Lovell Farms is a certified organic producer who primarily sells to wholesalers. Prior to packaging, their salad greens are triple-washed in well water by a team of four employees. The greens are kept in a cooler until distribution. All employees wear gloves during harvesting and cleaning. Dissatisfied with Lovell Farms as a potential culprit, the lawyer paid a visit to Ranco.

Second stop: the distributor. Ranco received the salad mix in bulk-size boxes from Lovell Farms. They sold some of the boxes directly to large institutional purchasers, but they broke some of the boxes and repackaged the greens in bags to sell to small buyers. The lawyer found the small area at Ranco where the greens are rebagged rather "messy." It was far away from the employees' toilet. However, there were no employees involved in rebagging during his time there and he could not observe Ranco's actual practices.

Questions for scenario 3:

Where is the most likely source of contamination?

There are no apparent problems on Lovell Farms. The employees wear gloves and the greens are in a cooler.

Only the bagged salad mix was implicated. It is therefore likely that the contamination occurred during repackaging at Ranco.

Shigella is highly infectious. As few as ten cells can cause illness, and poor hygiene is often the cause of its spread. It is possible that an infected person bagged the lettuce without following the most basic of hygienic acts: properly washing his or her hands.

How do the four principles of food safety apply to the farm in this case? Prevention. Lovell Farms' practice of triple-washing and glove use are best practices in terms of hygiene.

Accountability. This farmer seems to have a very proactive stance about food safety.

Control. There is nothing that the farmer can do to control what happens to his greens after they are distributed.

Education. Lovell Farms' practice of triple-washing exemplifies good training.

Scenario 4: Stand and Deliver ....A Painful Stomach Sickness

Reggie and his girlfriend Erica wanted to spend a relaxing evening together. They decided that they would prepare dinner together and watch a movie after work. On the way home, Reggie stopped by a family-owned roadside stand on Highway 211 to pick up some fresh produce for the meal. That night Reggie and Erica cooked a delicious meal, but by next morning both became very ill. Insulted at the doctor's suggestion that they "weren't careful enough," they hired a lawyer to get to the bottom of the event.

First stop: the home. Reggie purchased the vegetables at the Mercott family's roadside stand about 8 miles from his home. Reggie carried the vegetables in right away when he got home and placed them on the kitchen counter. An hour later Erica arrived and they began cooking. They washed all the produce briefly before preparing it. They prepared a stir-fry with rice and a tossed salad. The next morning, both were seriously ill. After listening to their story and taking a good look at their "spit and polish" kitchen, their lawyer promptly contacted the health department. It turned out that Reggie and Erica were not the first to become ill after eating produce purchased at the Mercotts' roadside stand.

Second stop: the farm. Encouraged, the lawyer paid the Mercotts a visit. The Mercott family owns a 15-acre vegetable farm and sells much of its produce at a roadside stand along nearby Highway 211. They have a shallow well for irrigation water, but it goes dry fairly often. When it does, they draw irrigation water from a stream that runs along the west side of their property. Their neighbor on the other side of the stream has a small dairy. They get manure, their primary fertilizer, from him. The family does most of the labor themselves, but they get occasional help for harvesting and processing from people in town. The work is hard and it is not always easy to find and keep people. This has become an issue for Mr.

Mercott, who has grown so tired of people quitting work that he often has little contact with these short-timers. He just makes sure they get their fair wage and leaves his teenage son and niece to let them know what they are supposed to do. Employees complained about the long walk to the toilet in the packing shed, so Mr. Mercott provided a portable toilet in the middle of the field.

Third stop: the stand. The Mercott roadside stand has been in operation for over thirty years, and much of the equipment, structure and accessories are original. They set up six days a week and are open for almost the entire day, from morning until late afternoon, to catch the peak traffic times. Mr. Mercott will often staff the booth himself because his two helpers, his nephew and teenage son, both complain about having to “stand out there all day.” However, Mr. Mercott can't run it all the time and these teenagers do run the stand from time to time. There is no refrigeration or running water at the booth, but the Mercotts find that keeping produce wet, especially leafy vegetables such as salad greens, keeps the product looking fresh. They keep a tank of fresh water at the stand for this purpose, but they have to bring the water from quite a distance. Refilling the tank is not easy.

Questions for scenario 4:

Do Reggie and Erica have the basis for a lawsuit, in your opinion?

They probably do. It is true that they left the vegetables out for an hour and may not have washed them very thoroughly. However, their kitchen is clean and, more importantly, they are not the first to become ill after buying produce from the Mercotts.

Where are there any areas of concern at the farm?

- The first possible problem is the surface water used for irrigation. With a dairy directly across the stream, there is the strong possibility of runoff into the stream introducing bacteria, such as *E.coli*.
- Fresh manure as a fertilizer poses high risks for contamination of vegetable crops.
- Another issue is the problem of training. It is clear that Mr. Mercott does not have a systematic training program for his employees. The high turnover rate makes the problem worse.
- The availability of the toilet facility in the field is good, as long as it is well supplied with soap and water for washing hands.

What about contamination at the roadside stand?

1. The lack of refrigeration could be a problem, because many microbes flourish in warmer conditions.

2. The “fresh water” used to keep the vegetables looking fresh is potentially a big problem. It is not clear that the water is really fresh or that it is changed frequently.

3. The potential lack of training of the young stand workers could also be an issue.

4. The lack of a bathroom or hand-washing station at the stand is a serious problem.

Which of the four principles does this farmer need to apply?

Prevention. He needs to apply this principle on the farm and at the stand. This includes testing the surface water for contamination or finding a better water source. He needs to find a better way to keep vegetables fresh at the stand. Using water that has been sitting in a tank for a prolonged period, often in hot or warm weather, is not adequate. The in-field toilet may be a good idea -- if the workers can wash up after using it.

Accountability. Mr. Mercott needs to be more aware of the dairy farm next to his vegetable farm, especially if he plans to use irrigation water from the stream between the two farms. He also needs to be aware that he is responsible for the behavior of all of his employees and that he must supervise them adequately.

Control. This farmer is in control of all aspects of his product until it goes into the consumer's hands. He could expand his control by educating consumers

about food safety after the product leaves the farm. He could do this verbally or through signage. Reminding them to wash all fresh produce well is especially important.

Training. Even with constant turnover, it is very important that all employees are well-trained in proper food-handling procedures.

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