CNN: SPECIAL INVESTIGATIONS UNIT

Danger: Poisoned Food

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Now let's bring you a CNN SPECIAL INVESTIGATIONS UNIT, "Danger: Poisoned Food."

(BEGIN VIDEOTAPE)

SANJAY GUPTA, CNN CORRESPONDENT (voice-over): The dawn of a new harvest in the garden of plenty.

(on camera): If I literally leaned over and picked a piece of spinach, could I eat that?

UNIDENTIFIED MALE: Absolutely. It's delicious in the morning.

GUPTA: That's good. That's really good.

(voice-over): But there's trouble in paradise.

UNIDENTIFIED FEMALE: Come here, Ashley.

UNIDENTIFIED FEMALE: We had our Sunday dinner where we had a spinach salad and lasagna. UNIDENTIFIED MALE: I call it Katrina on your plate. Put simply, our food safety in this country is broken.

GUPTA (on camera): What are the vulnerable points here?

UNIDENTIFIED MALE: They say it's way too complex. It's really not complex. It's cow manure.

UNIDENTIFIED MALE: They produce a very potent toxin.

UNIDENTIFIED MALE: And Beth said, call your pediatrician right now.

UNIDENTIFIED FEMALE: These outbreaks have been happening with fresh produce for over 10 years. What is safe? What can we eat?

GUPTA: Is the food safer?

UNIDENTIFIED MALE: The food is safe.

UNIDENTIFIED FEMALE: I don't trust it. I don't trust it.

CHRISTIANE AMANPOUR, CNN CORRESPONDENT (voice-over): We uncover stories never heard, images never seen.

UNIDENTIFIED MALE: ... into Baghdad.

ANDERSON COOPER, CNN HOST: Gang members are driving down this street.

UNIDENTIFIED FEMALE: They walked up.

UNIDENTIFIED MALE: A deadly risk.

UNIDENTIFIED MALE: You can hear and see the choppers.

ANNNOUNCER: Now, Dr. Sanjay Gupta, "Danger: Poisoned Food."

GUPTA (voice-over): September 14th, 2006, the U.S. Food and Drug Administration warns of a nationwide outbreak of e. coli poisoning. The common thread is spinach. In all, there are 205 confirmed cases. And at least three deaths.

UNIDENTIFIED MALE: Central to it all, raw, bagged spinach.

GUPTA: It's the 20th outbreak of e. coli since 1995 linked to salad greens. In August of 2006, Ashley Armstrong was a healthy, rambunctious two-year-old.

ELIZABETH ARMSTRONG, MOTHER OF E. COLI VICTIM: Very playful. Loves to sing. Loves to dance. Worships her older sister. Follows her around everywhere. Very friendly. Very happy. Always smiling.

GUPTA: Some kids won't eat their vegetables. But Ashley, no problem.

E. ARMSTRONG: We were very healthy eaters. We love lots of salads, lots of fresh vegetables, fresh fruits.

GUPTA: August of 19, 2007, at the end of a hot day, the family sat down to Sunday dinner.

E. ARMSTRONG: We had spinach salad and lasagna. It was the Monday after we had had our Sunday dinner and our oldest daughter started getting sick. She was sick for about a week.

GUPTA: Vomiting and diarrhea. Elizabeth got sick as well but quickly recovered.

E. ARMSTRONG: And Ashley got the same symptoms.

GUPTA (on camera): Were you worried at the time?

MICHAEL ARMSTRONG, FATHER OF E. COLI VICTIM: No, not at all. Kids get sick, you know, and they get the sniffles and they keep going. I think it was about two days after she first had some symptoms, I started to get pretty worried about it.

E. ARMSTRONG: We found blood in her stool. We found blood in her diaper and that didn't seem right. We went to have a blood test to see if she was dehydrated and they said, yes, she could probably use an IV.

M. ARMSTRONG: I remember the pediatrician saying, shoot in an IV and she'll be good as new the next morning.

E. ARMSTRONG: The next morning she started acting very strange.

M. ARMSTRONG: That's when it got really bad.

E. ARMSTRONG: It was very scary. Ashley, she likes to be held when she's sick, she's like most kids. She wouldn't even let us look at her. Bouncing around in the crib just ...

M. ARMSTRONG: Almost like a caged animal. She was trying to pull the IV out.

E. ARMSTRONG: Scary.

M. ARMSTRONG: Almost corralling and looking at her, and I didn't know what to think. It wasn't her at all.

GUPTA: She's acting strangely to you.

M. ARMSTRONG: And then that's when Beth said, call her pediatrician, her doctor right now.

E. ARMSTRONG: She had started vomiting once we got to the hospital. It started getting worse. More frequent and it started to get darker and darker green and then it started turning black. And Michael said, we've had enough. We said, there's got to be something seriously wrong with her.

So our pediatrician ran a full panel of blood work and that's when they saw her kidneys were failing.

GUPTA (voice-over): The culprit in Ashley's case was e. coli, 0157 H7, virtually unknown until the early 1980s, but since then striking with terrifying frequency. Inside Ashley's tiny body the bacteria had attached to her intestinal lining.

MICHAEL DOYLE, UNIVERSITY OF GEORGIA, CENTER FOR FOOD SAFETY: CDC suggests only a hundred or less of these cells, once they get into our intestinal tract are enough to make us sick.

MANSOUR SAMADPOUR, PRESIDENT, IEH LABORATORY: Every 15 minutes, every 20 minutes they double in numbers. You can have one cell going in and after 24 hours you can have billions of them.

E. Coli 0157 produces a very potent toxin. The toxin gets released and gets absorbed and starts killing the intestinal cells and makes its way throughout the body.

E. ARMSTRONG: The nurse came in and said your doctor's on her way down here. She needs to talk to you. She said that her kidneys were failing. She possibly might need dialysis and that they were calling a lifeline ambulance to come and take her down to Riley.

GUPTA: There was no time to spare. An ambulance rushed Ashley to a state-of-the-art medical center. Riley Hospital for Children, in Indianapolis.

Ashley's kidneys were failing. And her brain swelling. From a medical complication called hemolytic uremic syndrome or HUS.

DR. SHARON ANDREOLI, RILEY HOSPITAL FOR CHILDREN: They seemed to get over the diarrhea when all of the sudden the kidney failure sets in. They start getting puffy. They look pale. They are irritable and lethargic and not feeling well. These are kids that are perfectly healthy one day and they are in kidney failure on dialysis a few days later.

GUPTA: HUS occurs in about 10 percent of small children with e. coil poisoning. It's most common in the young and the old.

Ruby Trouts (ph) was a vibrant, 81-year-old in Omaha, Nebraska, living with her son-in-law and her daughter, Polly.

POLLY COSTELLO, DAUGHTER OF E. COLI VICTIM: She gardened and walked up and down the stairs of my house. My neighbors considered her a master gardener. She could shovel and she could do everything she needed to do.

On that day we were getting ready to plant some bulbs that had bought and my mom wouldn't come out of her bedroom.

GUPTA: She was sick all day, getting worse by the hour.

COSTELLO: By 6:00 I walked in the room and asked her if she didn't think it was time on go to the hospital.

GUPTA: In just three days the toxin overwhelmed her system.

COSTELLO: We knew probably by, oh, 7:00 or 8:00 Wednesday night that, you know,

probably she wasn't going to survive the night. You know, by then she had lost her ability to speak. And she had, I believe, lost her vision. She just wasn't herself at all. She was in a great deal of pain still. And it's a horribly ugly way to have an illness or to die.

GUPTA: When Ruby Trouts died last August 31st, no one could suspect any link to a two-year-old girl in Fishers, Indiana. But by the time Ashley Armstrong was rushed to intensive care, the story was coming together.

JOHN ROBERTS, CNN HOST: The Food and Drug Administration is advising people to stop eating all types of fresh bagged spinach.

UNIDENTIFIED FEMALE: The contamination took the life of 81-year- old Ruby Trouts.

BLITZER: It's killed before and could kill again.

GUPTA: The Centers for Disease control noticed that e. coli cases in several different states were caused by the same genetic strain of the bacteria. That meant one thing. The infections came from the same source. But what? E. coli can grow almost anywhere. It's caused outbreaks in everything from apple juice to burgers. This time?

DR. KEVIN REILLY, CALIFORNIA DEPARTMENT OF HEALTH SERVICES: A number of them, the vast majority of persons, talked about eating spinach. Not just spinach, though, but fresh, bagged spinach.

GUPTA (on camera): We now know more than 200 people got sick in 26 different states. At least three people died. But I want to show you something. Investigators were able to pinpoint the source of the contaminated spinach just a few rows behind me now covered with a cover crop.

But I want to find out, was there something particularly vulnerable about this spot or is it part of a broader problem.

(voice-over): When we come back, we're on the trail of a killer.

(END VIDEOTAPE)

(COMMERCIAL BREAK)

(BEGIN VIDEOTAPE)

GUPTA: Last September an e. coli outbreak poisoned hundreds of people, more than 200 fell ill in 26 different states. Three people, including 81-year-old Ruby Trouts, were dead, and two-year-old Ashley Armstrong was fighting for her life. And there was one big question ...

REILLY: How could fecal contamination get on to the spinach? GUPTA: Kevin Reilly led the California Department of Health Services investigation team.

REILLY: A number of them, in fact, a vast majority of person talked about eating spinach, not just spinach, though, but fresh bagged spinach.

GUPTA: Elizabeth Armstrong bought her spinach at her local grocery store in Fishers, Indiana. But it was grown across the country in Central California. Delivered by truck after a stop at a warehouse in Springfield, Ohio. The bags of tainted spinach bore an important clue.

REILLY: It was date 227, which is basically August 15th, 2006.

GUPTA: And the packages bore the same name, Dole brand.

(on camera): The spinach that caused the outbreak was washed and bagged right here, on August 15th, 2006.

(voice-over): Packaged, not by Dole, but by another company. Natural Selection. In the wake of the outbreak, the president of Dole Fresh Vegetables, Eric Schwartz (ph), says the company is doing more frequent audits of Natural Selection and other packers.

UNIDENTIFIED MALE: In the end anything with our name on it ultimately becomes our responsibility.

REILLY: We had it narrowed down to four specific forms that supplied on this date. All four of these farms we found e. coli 0157- H7. On only one of the ranches or farms did we find the strain type that matched up with the spinach positives and the outbreak strain in the people.

GUPTA: The farm where the lethal strain was found, Mission Organics, grew spinach on 50 acres of land leased to them by Picinas (ph) Ranch. Fifty acres of spinach nestled amid thousands of acres of cattle. Investigators found the deadly e. coli strain in water, in cow manure, and in wild pigs.

ACHESON: The pigs are known to run between the cow pasture and the spinach fields. Those are the facts. You could then speculate that the pigs carried the e. coli from the cow pasture to the spinach.

GUPTA: The investigators found pig tracks near the Mission Organics field. Mission Organics, which is not growing spinach this year, did not dispute the findings of the investigation. The company declined further comment to CNN on advice of legal counsel. So what is this area?

UNIDENTIFIED MALE: Right here is the field that the spinach came from.

GUPTA (on camera): As you look at this particular field, any red flags? What sort of jumps out at you?

UNIDENTIFIED MALE: Very close to a road. These hillsides are filled with, you know, wild animals, wild bores.

GUPTA (voice-over): Bill Marler handles more food poisoning cases than any lawyer in the country. We paid a visit in February during a salmonella outbreak linked to peanut butter and the office was taking a call every two minutes.

In 1993 when more than 700 people fell ill after eating tainted burgers at Jack in the Box, Mahler sued and won more than $200 million. Now his sights are set on the leafy green industry. Lettuce and spinach.

BILL MARLER, ATTORNEY FOR E. COLI VICTIMS: Are these companies evil or bad, to poison their customers? No. Are they somewhat naive. Are they somewhat lazy, maybe stupid? Yes.

There were multiple times where they had plenty of information to understand that e. coli was getting on their product, and where does e. coli come from? It comes from cows. And when you realize that they are still growing spinach next to cows, clearly, they weren't paying attention.

GUPTA (on camera): So I just anointed you the person that can make any change you want. What do you do?

MARLER: Ultimately what you need to do is to force these guys in these fields to look at every single way e. coli could get into their product and to just simply stop it. They can test water. They can get the cows further away. They can do -- start to do things that limit the exposure of people to e. coli.

GUPTA (voice-over): That e. coli has resulted in more than 20 outbreaks since 1995. Eleven of those traced to bagged or fresh- packed lettuce or spinach.

DOYLE: We really don't know the exact reason for this, but there are lots of possibilities. We know the processes that are used for preparing the fresh-packed vegetables are not always fully effective in killing the harmful bacteria.

GUPTA: Think about it this way, if you had even a pinpoint's worth of e. coli 0157-H7 nestled in the pores of spinach leaves and it's chopped and mixed with other spinach that tiny bit of e. coli can end up in batch after batch of bagged salad.

MARLER: I think you have to look at bagged products as part of the problem. In a sense is the convenience worth the risk? You're taking potentially what's maybe a little tiny problem and amplifying it. And then you ship it all over the country in trucks. And then you amplify the problem again.

GUPTA (on camera): To think that you go to your grocery store, you buy what most people consider a pretty healthy food.

MARLER: Right.

GUPTA: And it makes them sick. Can we count on our food being safe?

MARLER: I think the answer is no.

GUPTA: As grief turned to anger, Polly Costello and her husband joined a battle pushing tougher safety laws. Ground zero? California, where nearly all the salad greens in this country are grown.

COSTELLO: Tomorrow would have been her 82nd birthday. If our family had not been eating spinach in late August, my mother's death from e. coli was preventable.

ANDREW KIMBRELL, CENTER FOR FOOD SAFETY: I call it Katrina on your plate. Hundreds have died. Thousands have become ill in this country because our failure to assure food security for our country.

GUPTA: Andrew Kimbrell runs the Center for Food Safety, an organization critical of many large scale food production methods.

KIMBRELL: Our food safety in this country is broken. It's really broken. The primary agency responsible for it, the FDA, is in complete disarray. It is understaffed and underfunded and without leadership and it's not doing its job.

GUPTA: Later we take the accusations straight to the FDA, the agency that should be looking out for us. But, next, I go to the source, to find out, is it safe?

(END VIDEOTAPE)

(COMMERCIAL BREAK)

(BEGIN VIDEOTAPE)

UNIDENTIFIED MALE: This is fundamentally a farming community in the middle of the central coast of the California.

UNIDENTIFIED MALE: The vast lion's share of produce, especially lettuce and leafy greens, come from California.

ROD BRAGA, FARMER: Our first fields would be harvesting this week.

GUPTA (on camera): So this is all your farmland here.

BRAGA: Yes.

GUPTA (on camera): Is this something that's been in your family or something you started?

BRAGA: No, it's actually third-generation farmer, family farmer here in the Salinas Valley. My grandfather came to this ranch in the late 1920s.

GUPTA (voice-over): Eight decades Rod Braga (ph) he farms this 800-acre ranch in Soledad, California, the heart of the Salinas Valley. After last year's outbreak, the investigators scoured Braga's farm but found no contamination.

(on camera): If I literally leaned over and picked a bite of spinach, could I eat that? Would it be safe right now?

BRAGA: Absolutely. Try it out.

GUPTA: I love spinach. A little chilly.

BRAGA: Yeah, it's a little early in the morning. But actually it is delicious in the morning.

GUPTA: That's good. This is really good.

(voice-over): This is one farm among hundreds dotting this lush valley. An average of 6 million heads of lettuce are produced here every day.

(on camera): Got you. That's pretty amazing.

(voice-over): I wanted to find out -- is it safe?

(on camera): I want to give you a little bit of a sense of what's happening here. This is a harvester and it can actually harvest three to four acres an hour which is pretty amazing. Obviously all the red, leafy vegetables coming through here it goes through a chlorinated bath and goes through the things that has holes in it and it really gets rid of a lot of the debris here. And it's a very important measure and it's stuffed into these cartons and you can see they are going to fill the pallets over the next hour and certainly the next day as well.

This is a large part in ensuring our food is safe.

(voice-over): The biggest risks are found not in the harvesting but in the growing, in irrigation water and manure and another big concern.

(on camera): You take a look at this spinach which looks beautiful. What are the

particular vulnerable points here? What are you worried about in terms of the safety of the spinach?

BRAGA: Making sure we don't have intrusion in terms of animals or people that aren't supposed to be here, either.

GUPTA: So you do have a fence here.

BRAGA: Right.

GUPTA: This is basically to try and keep animals from that part getting into your fields over here.

BRAGA: Absolutely.

GUPTA: So this does two things. It keeps potentially animals out, but if something did break through ...

BRAGA: You're going to know about it.

GUPTA: It's an indicator.

All of this right here is your land.

BRAGA: All of this is our land. There's a piece here that we lease just so we have an area of a buffer.

GUPTA (voice-over): A buffer against cattle, who many point to as culprits in e. coli breaks.

DOYLE: When 0157 is present, the original source is most likely to have been cattle and the cattle feces somehow would then have to get into the growing fields.

GUPTA: This valley is literally surrounded by a million acres of cattle-grazing land.

DOYLE: One time Wisconsin used to be the dairy state. Well, today, we have more cows, more milk and more cheese coming out of California, and some of these operations are very intense. We're talking about tens of thousands of animals in a -- in a very small area.

MARLER: You always have to look for a cow, and so if you look around like right across the street here, is a cattle ranch, and so, you know, the closer the cattle are to, you know, where you grow, you know, vegetables, the more likely it is you're going to have a problem.

GUPTA: Robert bracket is in charge of food safety at the Food and Drug Administration.

(on camera): Is there a mandatory distance that animals have to be kept away, for example, from farms?

ROBERT BRACKETT, FOOD AND DRUG ADMINISTRATION: No, that's one of the questions, one of the research questions we actually have, and it's a very difficult one, because there's no one distance that would work in all locations.

MARLER: They sort of say, oh, it's way too complex and it's really -- we got to have more studies and give us some more money and we'll figure it out. It's just -- it's really not complex. It's cow manure.

GUPTA (voice-over): The FDA issues only voluntary guidance for things like well testing or soil testing. The details are left to the farmers.

For their part, many farmers and processors have responded to the outbreaks by signing new, also voluntary safety rules developed by the Western Growers Association. Joe Pezzinni (ph) helped write those rules.

JOE PEZZINNI, GROWER-SHIPPER ASSOCIATION OF CENTRAL CALIFORNIA: We can't wait for the silver bullet. We have to start now and improve the systems and we have done. That.

GUPTA (on camera): If people don't know what happened in the first place, they don't know exactly if it was contaminated by an animal or what. But how do you come in here and say it's a good agricultural practice? You don't even know what you fixed.

PEZZINNI: Well, that's always been a frustration with the investigations. They've never been conclusive.

GUPTA (voice-over): At Rod Braga's farm, they test the water every month, and workers undergo vigorous safety training. Gilberto Amador runs a work crew on his farm.

UNIDENTIFIED MALE (through translator): We have a safety meeting every Monday. We all understand that we have to stay clean out in the field. We carry our gloves. Wash our hands, make sure our masks cover our mouths.

GUPTA (on camera): People around the country may point fingers at the farmers here and say, you know, they made us sick. Is that an unfair portrayal?

BRAGA: Well, I know that -- I know that -- that we're doing everything we can, following every food safety and good agricultural practice to make sure everything is safe when it leaves here and that every -- every time someone sits down to eat from anything that leaves our farm is safe. But that probably doesn't matter to - if it was you or I that got sick somewhere.

GUPTA: Is the food safer?

PEZZINNI: The food is -- is safe.

GUPTA: Is it safer than last year?

PEZZINNI: Yeah, the food is even safer than it was before.

GUPTA (voice-over): But if our food is really safer, why do these outbreaks keep happening? Our investigation continues.

MARLER: I fear that there will have to be more Ashley Armstrongs before government steps in or industry changes their behavior.

GUPTA (voice-over): But up next, days after eating spinach, Ashley Armstrong is clinging to life. Her kidneys, shutting down.

ELIZABETH ARMSTRONG, MOTHER OF E. COLI VICTIM: She was looking so gaunt. Her eyes were bugging out.

MICHAEL ARMSTRONG, FATHER OF E. COLI VICTIM: It's my job to protect her. I couldn't do anything.

(END VIDEO CLIP)

(COMMERCIAL BREAK)

GUPTA: September 14th, 2006, 2-year-old Ashley Armstrong is in critical condition, caused by E. coli poisoning from spinach.

MICHAEL ARMSTRONG, FATHER OF E. COLI VICTIM: It's my job to protect her. I couldn't do anything.

DR. SHARON ANDREOLI, RILEY HOSPITAL FOR CHILDREN: Her kidneys took a very major hit. They were functioning at essentially zero percent.

M. ARMSTRONG: She was -- looked like a caged animal. Because her brain was actually swelling and it changed her personality. Her kidneys were shut down from that damage.

GUPTA (on camera): Your older daughter was 5 at the time, Isabella. Does she understand what happened with her sister?

M. ARMSTRONG: She looked at me and she said, daddy, what if Ashley dies? And I didn't know what to -- how to answer that. I just -- I told her, she's going to be fine. She has good doctors.

GUPTA: Did you believe it for sure?

ELIZABETH ARMSTRONG, MOTHER OF E. COLI VICTIM: We hoped it.

M. ARMSTRONG: I hoped it.

E. ARMSTRONG: He prayed it.

M. ARMSTRONG: Yes.

GUPTA (voice-over): There was no magic moment. But slowly, surely, those hopes and prayers were answered.

Still in the hospital, full of tubes, Ashley began acting like her old self.

E. ARMSTRONG: Typical 2-year-old did not want to be tied down. With the IV and the dialysis bags, I mean, she was starting to get a little stir crazy. Finally we were able to start taking wagon rides around the hospital.

GUPTA (on camera): What was that first wagon ride like?

E. ARMSTRONG: Oh, my goodness. It was amazing. Just to see her little face light up. I mean, she was so excited. So excited.

M. ARMSTRONG: It only lasted about 10 minutes.

E. ARMSTRONG: Yes, she got very tired very quickly.

M. ARMSTRONG: She was worn out. Just wanted to go back to bed.

GUPTA (voice-over): By December, nearly four months after that fateful spinach dinner, Ashley was home.

But life will never be the same. Ashley has to take a half a dozen medications every day to treat her kidneys and related high blood pressure.

ANDREOLI: Her kidney function is still not normal, and I really don't expect it to ever return to entirely normal. Somewhere in the range of, I don't know, three to 10 years, I'd predict that she's going to need a kidney transplant.

M. ARMSTRONG: We actually try not to think about the longer term effects here. It's quite unlikely she'll ever be able to have a kid of her own, to be pregnant. Once you do have a transplant, and your immunosuppressants and other medications and -- even if her body could handle it.

GUPTA: Those medications that would be needed to keep Ashley alive after a transplant are far too toxic for a pregnancy.

M. ARMSTRONG: It's amazing, all this from a contaminated piece of spinach in a different state. It's kind of mind-boggling.

E. ARMSTRONG: It's still -- still surreal.

M. ARMSTRONG: We did a little bit more research and come to find out these kind of outbreaks from spinach or actually from the similar growers, it's not uncommon. Which shocked me. And it's known by the FDA that there might be some problems. I was pretty angry, actually.

GUPTA (on camera): It's the FDA. I mean, they're supposed to make sure that what you take is safe.

M. ARMSTRONG: Right.

GUPTA: In this case they didn't.

M. ARMSTRONG: No. But basically what I understand is they've written a few letters that said there's a problem with your process. And that's it.

GUPTA (voice-over): One FDA letter in November of 2005 sent to growers in California pointed out 19 outbreaks linked to fresh-cut lettuce or spinach and said they account for approximately 409 reported cases of illness and two deaths.

Remember, this is before last year's outbreak.

M. ARMSTRONG: If you know there's a problem, fix it.

E. ARMSTRONG: Yes.

M. ARMSTRONG: You know, when they came back and said -- what was it, like even two or three weeks after the outbreak, it's fine now. The spinach is fine. You can eat it. It's back on the shelf. What do they do differently? What did they change to make it safe?

GUPTA: We were wondering the same thing, so we paid a visit to the FDA food safety chief who had sent that letter to farmers.

Is our food safe in this country? ROBERT BRACKETT, FDA FOOD SAFETY CHIEF: I think the food is very safe in this country, by and large. And in fact, according to CDC statistics, it appears to be even getting safer over the last few years.

GUPTA: Can I say that it's safer than it was last year?

BRACKETT: We've got a better indication of where the problems might be, so we're watching for it. But until we identify exactly where it's coming from and exactly which action should be put in place, we'll have to wait and just see if bad luck happens again.

GUPTA (voice-over): Bad luck? Along with warning letters, the FDA offers only voluntary standards for growers. In March it issued new best practice guidelines, with advice like test well water and don't use manure unless it's treated to remove harmful bacteria.

And for processing plants, rinse the floors every day and don't let washed produce come in contact with crops that are fresh from the field.

The system is based on trust and voluntary compliance.

Since 2003, federal food safety inspections are down by a third.

(on camera): Do you have enough inspectors?

BRACKETT: Well, we have enough inspectors to do what we need to do.

A better question would be is, do you have the right inspectors at the right place at the right time. And that is what we're really focusing on.

GUPTA: Then I asked about last summer's outbreak. Could it have been prevented if someone had looked closer at the growers or maybe the plant which packaged the spinach.

Do you know when that natural selection plant had last been inspected?

BRACKETT: We do what's known as risk based inspections. In some cases a plant may not be inspected more than once every few years. And if the company itself has not had a good record, they'll get much more frequent inspections.

In this case, it's probably about once a year.

GUPTA (voice-over): In fact, inspectors had been at the plant that handled the tainted spinach just weeks before the outbreak, and found no problems.

But the FDA had never visited the farm where E. coli turned up. They don't inspect fields at all, unless there's an outbreak.

(on camera): If it had been tested on the farm or at the plant or anywhere along the way, this may have been found?

BRACKETT: It may have. But that's really a needle in a haystack proposition. It may have only been on one small area. So unless could test and know exactly where to test,

the likelihood is that you would have missed it anyway.

GUPTA (voice-over): For the Armstrongs, every shopping trip, every meal is a challenge because Ashley's kidneys can't filter out some nutrients like potassium. Most fresh vegetables are out.

E. ARMSTRONG: Grapes are one of the few fresh fruits that we can still buy.

GUPTA: What's the absolute no-no?

E. ARMSTRONG: Bananas, avocados, tomatoes -- totally off limits and no tomato products. So no spaghetti sauce, no pizza.

GUPTA (on camera): What about lettuce, celery, that kind of stuff?

E. ARMSTRONG: Celery is OK. It's mostly water. Lettuce is completely off limits. No leafy greens of any kinds. Potatoes, extremely off limits. No French fries, no baked potatoes. Carrots are off limits.

GUPTA: Oh, carrots -- kids love carrots.

E. ARMSTRONG: I know. Kids love carrots.

GUPTA: As for spinach?

E. ARMSTRONG: That's just asking me to take my life in my hands. I don't trust it. I don't trust it. We thought it was safe. It says washed three times.

GUPTA: Right.

E. ARMSTRONG: We put it in a bowl and we ate it for dinner and our lives were changed forever.

I think everybody kind of thinks they are invincible until it happens to them. It's these outbreaks that have been happening with fresh produce over 10 years. What is safe? What can we eat?

GUPTA: And have you reached any conclusions on that?

E. ARMSTRONG: Twinkies, I think. That's it. We're going on a Twinkie diet.

GUPTA (voice-over): Coming up -- fighting E. coli with science. We put some popular techniques under the microscope. Don't go away.

(COMMERCIAL BREAK)

GUPTA: In 1992 and 1993, four people died. And more than 700 became sick in the Pacific Northwest, after eating undercooked hamburgers contaminated with E. coli 0157.

The outbreak at Jack in the Box restaurants brought home the dangers of E. coli 0157 and served as a wake-up call to the beef industry.

RANDALL HUFFMAN, AMERICAN MEAT INSTITUTE: This particular event led to a cascade of changes in our industries that have improved the safety of meat and poultry products.

GUPTA: Among them, the use of steam and vacuum wands to kill bacteria on slaughtered beef. And meat is tested for dangerous pathogens before it goes out the doors to consumers.

Many cattle in the United States now eat feed containing Lactobacillus acidophilus, the bacteria found in yogurt. It reduces the percentage of cattle whose feces are contaminated with E. coli by more than half.

Researchers are also testing an E. coli vaccine for cattle.

MICHAEL DOYLE, UNIVERSITY OF GEORGIA CENTER FOR FOOD SAFETY: Well, the beef industry has come a long way in reducing E. coli 0157. In fact, many food safety specialists think that the beef industry ought to be used as a model by the produce industry.

GUPTA (on camera): All of your revenues come from meat?

WILLIAM MARLER, ATTORNEY FOR E. COLI VICTIMS: Absolutely.

GUPTA: And now none of it.

MARLER: None of it.

GUPTA: What happened?

MARLER: You know, the meat industry started looking at every way they could to get E. coli out of hamburger.

BRACKETT: This industry is perhaps several decades behind in their scientific understanding of the behavior of these microorganisms.

GUPTA: But I think, you know, one of the things that farmers need to do is really start to look very critically at where E. coli can enter the system.

DOYLE: There's been very little testing done in that regard by the growers themselves. They are going to have to do some testing of their irrigation water. They are going to

have to do some testing of the field itself, and then they are going to have to do some testing of the product, the crop that comes off the field.

GUPTA (voice-over): Mike Doyle, the director of the University of Georgia Center for food safety says bagged, ready-to-eat greens are particularly vulnerable, even when they are triple washed. UNIDENTIFIED MALE: Well, triple washed sounds good when you say it fast, but the chlorine is not effective in killing any harmful bacteria that could be on the surface.

GUPTA: Natural Selection bagged the contaminated spinach that Ashley Armstrong ate. After the outbreak, the company began using a mobile testing lab to ensure that its spinach and lettuce are free of E. coli 0157 and other dangerous pathogens.

Natural Selection declined to speak with us on camera for this report, but president Charles Sweat did testify about the new safety measures at a Congressional oversight hearing.

CHARLES SWEAT, PRESIDENT, NATURAL SELECTIONS: We believe this kind of testing is a key safety measure for produce that will be consumed raw, since cooking is the only proven kill step for E. coli.

GUPTA: Retailers such as Costco are also pushing for change. Since January, Costco has required spinach growers to test their product before it ships.

CRAIG WILSON, ASSISTANT VP FOR FOOD SAFETY, COSTCO: They'll test for all the pathogens. We also do our own testing in our own labs to ensure that what the vendor has done is correct.

We were the last people to get back into selling spinach. We felt it was very important to have a program in place that assures that the product is being cleaned properly, and if the bag says "ready to eat," that it is ready to eat.

UNIDENTIFIED MALE: This is our sample receiving. They bring the samples in.

GUPTA: Mansour Samadpour is president of IEH Laboratories, the company providing Natural Selection with its mobile testing lab.

MANSOUR SAMADPOUR, CONSULTANT FOR NATURAL SELECTION: We are in the business of reducing the risk. We can never eliminate risk 100 percent. But you have to realize that, you know, you cannot make agricultural sterile.

GUPTA: Samadpour's company is able to identify E. coli 0157:H7 and fingerprint bacteria.

SAMADPOUR: Every piece of DNA in one lane has a companion in the other one. So that tells us that these three E. colis are the same, but they are different than this E. coli.

GUPTA: Testing for E. coli on produce has to be extremely thorough or well targeted to be effective. Just 100 organisms can make someone sick.

The bacterium is also extremely hardy. It's resistant to cold. And in one test, it survived on a leaf of lettuce for 77 days.

E. coli 0157 is also incredibly difficult to wash off. Samadpour agreed to demonstrate just how hard it is.

SAMADPOUR: Here we have spinach that has been inoculated with E. Coli. We are going to subject them to different types of treatment.

GUPTA: Rinsing in water for 30 seconds.

SAMADPOUR: OK.

GUPTA: A more vigorous rinse in tap water. 50 parts per million of chlorine bleach in water, the same as the processors use. And then two commercially available vegetable washes.

SAMADPOUR: This product you have to -- to spray. After that you mix.

GUPTA: Finally, bleach and the vegetable washes.

SAMADPOUR: We are measuring the amount of bacteria that's still on this leaf before the treatment and after the treatment. And we can determine what the impact of the treatment was.

GUPTA: The unwashed spinach had 11,700 bacteria colonies. Each is one or two organisms. After a normal tap water rinse, 3,700. The vigorous tap water rinse, 2,900. The commercial vegetable washes did worse than water. Leaving 5,900 and 6,000 respectively. The chlorine wash? 3,600. Chlorine plus the vegetable wash did best, bringing the number of colonies as low as 2,300.

But, remember, it only takes 100 to get you sick. Bottom line? Washing may reduce the likelihood of getting sick, but won't eliminate it.

SAMADPOUR: You cannot remove all of them. The biggest challenge we have for this industry is that we do not have a kill step.

GUPTA: Unlike burgers, a salad goes straight to the dinner table. Refrigeration helps. It keeps the bacteria from multiplying, but it doesn't kill bacteria.

There is one process that kills bacteria without cooking -- eradiation. Approved by the FDA in low doses for fresh produce as a way to prevent sprouting and kill insects. And

now under consideration at high enough doses to kill virtually the bacteria.

JUAN SEGOVIA, STERIGENICS INTERNATIONAL: It disrupts the DNA of the bacteria. And if you disrupt enough of the DNA of the bacteria, the bacteria dies. There's no residue. There's no radioactive material on the product. It hasn't changed anything. The product is safe, nutritious. It's an effective process.

GUPTA: We'd heard from Food Safety Scientist that eradiation damages the taste and texture of the produce.

We decided to put eradiation to an admittedly unscientific taste test at Sterigenics International. It's a company that sterilizes medical supplies, food products and packaging.

UNIDENTIFIED MALE: As you can see, there's no visual change.

GUPTA: Now, without knowing which was which, CNN Producer Stan Wilson tried eradiated and regular bagged spinach at the lower FDA approved dose and then at a dose high enough to kill all the bacteria. Again, a dose not approved by the FDA.

UNIDENTIFIED MALE: Taste OK?

GUPTA: He could not taste the difference.

UNIDENTIFIED MALE: Is the population ready? As a hole, perhaps we are right on the edge of that acceptance level.

Today, it's very, very difficult for somebody who would want to choose irradiation.

GUPTA: For now, safety precautions in the field and testing remain the best line of defense.

SAMADPOUR: This spinach outbreak was a watershed event for food safety. We've had many, many outbreaks before that, but not to this extent. Therefore things are going to change.

GUPTA: Here's another change. Dole this spring, introduced a new tracking system enabling the company to trace the source of an outbreak very quickly. Down to 100-foot area on a specific field.

Samadpour is optimistic the chances of a major outbreak this year are less than they were a year ago.

SAMADPOUR: I would say that every year is going to be better than the previous year.

GUPTA: Not everyone is convinced.

UNIDENTIFIED MALE: I don't think the growers are going far enough to learn where the problems reside. The government can only go so far as well in terms of how it can prescribe what -- what the growers can or cannot do. I believe we're going to see more outbreaks in the future.

(COMMERCIAL BREAK)

GUPTA: Most of us take the safety of our food for granted. But our faith has been shaken.

By winter, the spinach outbreak was over, but already the FDA was investigating two different E. coli outbreaks. In lettuce, which infected more than 150 people. Today, there's still no official answer to tell us why.

This spring they found salmonella in peanut butter. At least 290 people got sick. And there've been other scares. Botulism toxin in olives, Listeria in mushrooms. And more E. coli. A multi-state recall of steaks and ground beef.

Not even our pets are safe. In March, manufacturers recalled some 60 million cans of pet food containing additives. Some of those additives turned out to be highly toxic. Investigators have confirmed the deaths of 16 pets. But the number may run into the thousands.

More worrisome, the FDA says some of the chemicals ended up in human food as well. Although they say it was probably way too diluted to hurt anyone.

In California's Central Valley, the garden of plenty, it's been a growing season, with fewer rows of spinach. Farmers and salad lovers are hoping for a quiet year.

The family of Ruby Trout (ph) settled a lawsuit against Dole, Natural Selection and Mission Organics for an undisclosed sum of money.

Rod Braga says business is good, although he is producing less spinach this year.

MARLER: To invite someone like me into your home.

GUPTA: William Marler gives speeches on food safety, including this one -- grown by spinach growers in Salinas.

MARLER: It's time to really put me out of business.

UNIDENTIFIED MALE: The whole truth and nothing but the truth.

GUPTA: The Armstrongs testified before Congress, asking for tougher food safety laws.

M. ARMSTRONG: It wasn't getting better, it was getting worse.

GUPTA: Ashley Armstrong went back to school, and continues her recovery.

This month, David Acheson was named FDA assistant commissioner for food protection.

DAVID ACHESON, FDA ASSISTANT COMMISSIONER FOR FOOD PROTECTION: It's going to be very difficult to push the risk to zero. Guarantee that every lettuce leaf, every spinach leaf is never going to have a contaminant on it. That's more than we can promise.

GUPTA: As of mid-May, the FDA has issued no penalties to any of the companies or individuals implicated in last year's spinach outbreak.

(END VIDEOTAPE)