

# Good Sprout News



--APRIL 2009--

Welcome to the April installment of Good Sprout News, a publication of the International Sprout Growers Association (ISGA). This month we update you on the rapidly approaching Convention in Chicago, a must do event in the world of sprouts and sprout growing. Not only will we have a great line up of speakers and technical meetings but a wonderful opportunity to network with like minded individuals from all around the world. In these uncertain economic times I feel it is ever more important to focus on making our businesses better, sharper and meaner and can think of no better way to achieve this than talking to similar businesses with similar issues to our own, remember united we stand, divided we fall!!.

This edition also covers some interesting research into sprouts, sprout safety and testing and an update on recent correspondence directly with the FDA.

Enjoy your read and we look forward to seeing you in Chicago.

## Convention Update:

Information about the convention--dates, location, lodging, convention program, and a registration form--is on the ISGA Web site and can be reached from <http://www.isga-sprouts.org/isgameet.htm>

## USDA Microbiological Data Program Two Year Study includes Sprouts

Bob Rust, International Specialty Supply

Up until the recent outbreak and array of recalls, sprout growers felt like they were out of the woods. The USDA Microbiological Data Program, which includes the surveillance of alfalfa sprouts, shows otherwise. The USDA has been removing sprouts and other produce items from distribution warehouses (not stores) since October 2005 and reporting the results.

The USDA pulls alfalfa sprouts in California, Colorado, Florida, Maryland, Michigan, New York, Ohio, Texas, Washington, and Wisconsin - through cooperative agreements with their respective Departments

of Agriculture. The USDA provides quality assurance oversight and laboratory and administrative support to the program.

Different quantities of alfalfa sprouts are pulled from these states based on sprout consumption of the region. The program attempts to accurately reflect sprout consumption in 50% of the US.

The data for 2008 is in but not yet available. The most recent reports span a two year period from October 2005 to September 2007. The data is summarized below.

Microbiological Data Program Results for Alfalfa Sprouts												
October 2005 to September 2007												
Year	Item	Pathogenic E.coli			Salmonella				Total		Starting Date	Ending Date
		Samples	Positive	%	Samples	Positive	Isolates	%	#	%		
2005	Alfalfa Sprouts	72	2	2.78%	72	0	0	0.00%	2	2.78%	Oct-05	Dec-05
2006	Alfalfa Sprouts	1,512	9	0.60%	1,512	7	1	0.46%	16	1.06%	Jan-06	Aug-06
2007	Alfalfa Sprouts	1,047	1	0.10%	1,047	9	2	0.86%	10	0.96%	Apr-07	Sep-07
<b>Total</b>		<b>2631</b>	<b>12</b>	<b>0.46%</b>	<b>2631</b>	<b>16</b>	<b>3</b>	<b>0.61%</b>	<b>28</b>	<b>1.06%</b>	<b>Oct-05</b>	<b>Sep-07</b>

A total of 28 of the 2631 sprout samples pulled were positive; 12 with pathogenic E. coli and 16 with Salmonella. This is a contamination rate of 1.06% for these two pathogens. This indicates that there may have been one or two alfalfa sprout recalls per *month* in the United States over this two year period. Personally, I find these results shocking and I am sure many others do as well. I am only aware of two recalls during this period of time, because they hit the news. But surely all of the sprouts produced by the same lots of seed were recalled. Possibly most recalls must go unreported or only hit the local press.

Government and the scientific communities agree that Salmonella and pathogenic E. coli are field borne pathogens and seed is the vehicle that brings them into sprouting facilities. A United Kingdom study released in April 2009 on behalf of the Local Authorities Coordinators of Regulatory Services (LACORS) and the Health Protection Agency, adds credence to this position.

Between October 2007 and March 2008, 3735 samples of ready-to-eat dried seeds were collected from 3290 retail premises in the UK. Overall, *Salmonella* was detected in 23 samples (0.6%).

LACORS also collected 58 packages of sprouting seed, presumably for home consumption. All were from different stores and of different lot numbers. One of the 58 packages was positive for salmonella, for a contamination rate of 1.72%. No E.coli was found in the alfalfa seed.

UK Study on Seeds in Retail Packets							
October 2007 to March 2007							
Year	Item	Salmonella				Starting Date	Ending Date
		Samples	Positive	Isolates	%		
2007-8	Alfalfa Seed	58	1		1.72%	Oct-07	Mar-08

Although the UK study was small with respect to alfalfa seed, the study showed that of 3735 samples of edible seeds, 0.6% was contaminated with Salmonella. Nine percent carried E. coli though they did not test for pathogenic E. coli.

One might conclude that one out of every eight twelve-packs of alfalfa sprouts contains a contaminated package of sprouts. But this same logic would conclude that 42 sprouts in every package are contaminated. This is clearly not the case. Some lots of seed contain contaminated seed to one degree or another. When one package of sprouts in a case is contaminated, the likelihood of others being contaminated is very high, necessitating a recall.

What can sprout growers do? Although there have been recalls for *Listeria monocytogenes*, which is not considered a seed issue, *all* of the sprout related outbreaks in the last 26 years have been related to salmonella or pathogenic E. coli, which are intimately associated with seed.

The first line of defense is to properly screen the seed for pathogens. If all seed were properly screened, and, if properly screening seed could insure that there were no pathogens in the seed, then seed screening would be all that is necessary. Unfortunately, according to a May 2008 letter to California sprout growers from the California Department of Health:

*“Recent investigations of California sprout processors have identified several critical areas that are cause for concern.”* These observations included improper seed screening:

*“Lack of procedures to thoroughly evaluate screen or test incoming seed lots before use.*

*As you are aware, seeds are considered the most likely source of contamination in most sprout-associated outbreaks. Yet, we continue to see sprouters who purchase seed without requirements or procedures in place to evaluate the seed before use.*

*Some sprout growers may require or obtain a negative test on each incoming shipment of seed. However, many only require 25 grams of seed to be tested from a lot composed of several thousand pounds of seed. Because the sample size is so small, and pathogens are likely not uniformly distributed throughout the lot, the probability of detecting pathogens in a large seed lot, using a single 25 gram sample, is very low if pathogens are indeed present.*

*Although there are currently no USFDA guidelines or state statutory requirements in this area, the incoming seed represents a known hazard that should be addressed with an effective and statistically valid procedure for evaluation of seeds prior to use. These procedures should include visual examination of the seed bags and examination of a representative sample of seeds from the lot for evidence of contamination, such as rodent urine or holes in seed bags, rodent droppings, or insects. If evidence of contamination exists at this stage, sprout growers should consider declining the lot. Further assessment should include testing of a statistically valid sample of incoming seed, and/or testing of spent irrigation water from a statistically valid sample of sprouted seeds before acceptance/use of the entire lot.”*

Grower’s second line of defense is proper seed sanitation. The FDA recommends a kill step such as 20,000 ppm.

The third line of defense is producing the sprouts in a rotary drum. According to studies conducted by the FDA and National Centers for Food Safety and Technology, rotary drums do not support the growth of salmonella and in some cases totally eliminate it.

And the final line of defense is testing the spent irrigation water to once again insure that the seed was not contaminated or did not slip past the first three lines of defense. This is the ultimate seed screening. It is a 100% sample of the seed.”

Once sprout growers quit using contaminated seed or find an adequate way of sanitizing contaminated seed, consumers can start feeling safe about eating them again.

USDA Microbiological Data Program can be accessed at:

<http://www.ams.usda.gov/AMSV1.0/ams.fetchTemplateData.do?template=TemplateO&topNav=&leftNav=ScienceandLaboratories&page=MDPPProgramReports&description=MDP+Program+Reports&acct=microbiodataprg>

LACORS study can be accessed at: [http://www.hpa.org.uk/web/HPAwebFile/HPAweb\\_C/1235464508852](http://www.hpa.org.uk/web/HPAwebFile/HPAweb_C/1235464508852)

## US Sprout Industry Joins Conference Call with FDA and CDC

*Respectfully Submitted by Barbara Sanderson*

On April 2, 2009, The US FDA initiated a telephone conference call with members of the sprout industry and individuals from the CDC (Center for Disease Control). The call was initiated because of a recent outbreak traced by epidemiology to an Omaha, NB sprout grower, and several recent sprout recalls due to routine sampling of product at store level testing positive for either Salmonella or Listeria Monocytogenes.

The CDC described their method of statistical analysis through surveys of case/control populations (i.e. Sick/non-sick). Pallsnet is a national network of labs which can analyze samples from ill persons, find the DNA fingerprint of the pathogen and coordinate results between labs to find a group suffering illness from the identical pathogen in numbers higher than normally expected. The CDC then goes to the identified group with survey questions listing as many as 200 different food items, travel experiences, animal contacts, etc. The same questions are taken to the control group.

From the late 1990s into the early 2000s, every year there was at least one outbreak in the United States. From 2004 on, there have been fewer outbreaks. The frequency of current recalls may be caused by weaknesses in Production Practices possibly leading to contamination of sprouts:

- Ways in which spent irrigation samples are collected
- storage and handling
- pooling diluting out pathogen
- methods of detection
- potential for cross contamination in the facility

Michelle Smith, FDA, SFSAN, told the conference attendees that there has been a significant level of collaboration between SFSAN and the sprout growers in the ten years since issuance of the FDA “Guidance for Industry” She said that the Sprout “Guidance” is simple (one or two pages), post able, without an extensive amount of “how to”. “Since seed disinfection cannot be counted on, testing remains one of the strongest hurdles.”

### ISGA Must Develop Guidelines for the Sprout Industry

Michelle Smith said the industry must develop its own Guidelines. FDA will not necessarily see eye to eye on everything, but that is OK, we can agree to disagree. FDA can't "approve" it. Industry can say things that FDA cannot say. FDA has to have "scientific proof" behind its statements. Industry can recommend things based on consensus and faith in certain practices that is OK. For example, TJ Fu is developing alternatives to testing protocols which ISGA could put into its "guidelines".

Michelle Smith has 5 Recommendations for the industry to address in its Guidelines going forward:

- Everyone has a responsibility (seed farmer, cleaner, distributor, sprout grower) but the largest part of the responsibility is on the sprout facility. Contamination in seeds is like a needle in a haystack.
- Seed production to prevent contamination in the first place
- GMPs in facilities (most contamination coming in on seeds)
- Seed treatment; 20,000 ppm Calcium Hypochlorite "as an example" (*not as a rule*<sup>1</sup>)
- Microbial testing for each batch before sprouts enter the food supply
  - Who performs the test
    - How to select a competent lab
    - How to set up in-house lab
  - How to collect samples
  - What to do in the event of a positive – including disposition of seed, confirmation testing.
    - Choose to destroy all product from that lot
    - Conduct confirmatory test results (holding all product from batch in question until confirmed)
  - Use appropriate testing protocols
  - Must do everything we can to test SEEDS
    - Visual
    - Microbiological testing
    - Documentation (trace back and proof of practices) If there is no documentation, inspectors cannot know that something was done, or what was done in particular instance in question.

Jeff Farrar, CDPH (California Department of Public Health) said: Safer Processing for Sprouts video was put together in CA with contribution from sprouters, research and regulatory, is a good model. Industrial groups are working on their own guidance's. If it is an industry project, it does not need clearance by FDA. Groups have done significant things. FDA is willing to help.

Art Davis, Industry safety consultant, said we need more background briefing of investigators.

ISGA needs to develop a sprout auditor's checklist to help growers understand the safety guidelines as well as to make certain that they have sufficient hurdles in place to prevent illness in order to get a passing grade on their 3<sup>rd</sup> party audit.

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<sup>1</sup> Italics added by B. Sanderson

Sherri McGarry, Office of Food Defense, Communication and Emergency Response, FDA/CFSAN, said there is information that could be shared from “observations from outbreaks” (found findings). The CDC is amenable to sharing. Also, state investigations would have knowledge which can be shared.

## **NORTHERN IDAHO SPROUT BUSINESS FOR SALE**

- Alfalfa, Clover, Broccoli, Spicy Radish and Mung Bean Sprout Business for sale.
- Includes Computerized Automatic Watering Equipment, Growing Vats and Cabins, Delivery Trucks, Van, Furniture Fixtures & Packaging Equip, Refrigerated Cooler.
- Approximately 4000 square foot Production Building, Pkg Room and Cooler
- 2 Residences: A new 3 bedroom on point with gorgeous mountain view of river, and a large rambling 2 story 4 plus bedroom about 20 yrs. old, along with a wood shed, storage shed, fenced yard and chicken coup.
- 30 x 40 foot square shop.
- Several live gravity flowing springs.
- High producing Apple Tree and Raspberry Bushes.
- Upper and lower meadows (undeveloped)
- A on a total of 40 very private acres within 12 miles of shopping.
- Northern Idaho location @ about 2000 feet elevation.
- Southern exposure.
- 2 or more building sites with breathtaking mountain views of river.
- No real estate property of this unique quality is available anywhere.
- Turn-Key-Operation.
- Photo's available to qualified buyers.
- Training available to Purchaser.
- Priced @ \$2,535,000.00 firm.

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## **SAMPLING OF SPROUTS – CAN THIS HELP ALLAY CONSUMERS FEARS?**

Since the late 1990s there have been dozens of attempts by leading food safety researchers to develop effective sanitizing interventions for sprouting seed. So far, in the U.S., the only treatment acknowledged by the FDA is 20,000 ppm chlorine, even though there is no consistent data on what it actually achieves.

It may be that in the near future a consistently effective seed sanitizing procedure will be developed which is affordable and which doesn't entail significant health risks to sprout workers, or have other serious drawbacks. Even if this should occur, it is not likely that the use of such a treatment would eliminate or significantly reduce the importance of every batch spent irrigation water testing, at least in the U.S., in the near future.

Testing is very expensive, and if testing becomes optional in a very competitive market, there will be a strong economic incentive to minimize it. This would lead to even more confusion about what constitutes safe production practices. And this can only erode the overall level of confidence in sprout products.

High testing costs are frequently mentioned as a burden to sprout producers, but this idea needs to be looked at in context. Are testing costs a burden because the retail price of sprouts is as high as it can be, and consumers will just stop buying them if the price goes up? Or are they a burden because a difference of pennies per package can be a determining factor in obtaining or keeping an account with a supermarket buyer?

The costs of an every-batch testing program may be somewhere in the range of ten cents a package, wholesale cost. If you ask a sprout producer what his bottom line would look like with an extra dime per package coming in, I think you'd see quite a reaction. In my own company this extra ten cents a pack could finance the building of an entirely new facility and give everybody a raise at the same time.

So it's an important question whether the consumer's willingness to buy sprouts is limited by some inherent value associated with the product, or will the customer readily pay more for sprouts if they have a reason to believe they're getting a better or safer product?

Since every-batch sampling and testing are going to be a necessity for the foreseeable future, then things like sampling protocols, sample handling, the time it takes to get the sample to the lab, the type of test used, cost per test, how responsive a lab is, and other details, are very important, not just to the individual producer, but to all producers.

If a condition of acceptance of sprouts into the market included an every-batch sampling and testing program, then the price of sprouts would have to include these costs and the industry as a whole would benefit. This is easier said than done, but should we all just hunker down and wait to see what happens? The upcoming ISGA Convention in Chicago, June 18-20, will provide an opportunity to discuss this, and other important questions.

Bob Sanderson, ISGA President, with help from Carlos Stolzenback, Caudill Seed Co.