

GOOD SPROUT NEWS*"Sprouting Solutions"*

If you have an idea of what this is a picture of, please email the ISGA office with your thoughts.

(The results of the last contest are published near the end of this edition)

Upcoming Events**Calendar:****October 2011**

Oct 18: BOD Meeting
Oct 19-20: Convention, Las Vegas

Annual Membership Campaign
Contact the office for information on how you can save money on your 2011 membership! We also have a new PayPal webpage for membership renewals. Visit that site here.

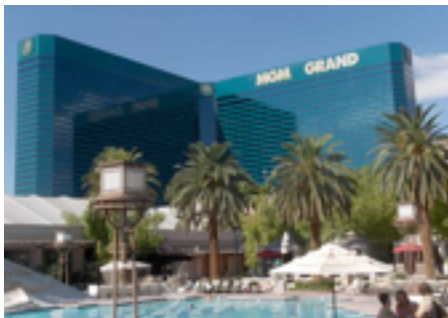
facebook

Please "Friend" ISGA on Facebook

Suggestion box.....

If you have an idea for a speaker or event, or if you are interested in joining the Convention subcommittee,

If you have an event or article that you would like considered for the next newsletter, please e-mail it to secretary@isga-sprouts.org.

ISGA CONVENTION

The 21st Annual Convention of the ISGA is being held at the MGM Grand Hotel in Las Vegas on October 19 - 20.

www.mgmgrand.com

877-880-0880

Please book your room directly with the hotel, as early as possible, and please remember to mention ISGA

Both Deluxe Rooms at \$75 and Bungalow Rooms at \$110 are available. Room fees include the \$20 resort fee.

(A deposit will be charged when reserving)

PLEASE NOTE THESE IMPORTANT DATES:**Convention:****Las Vegas, NV USA****October 19-20, 2011**

Formal invitations and agendas will be sent out as soon as possible.



Measuring Log Reduction Achieved With Seed Sanitization Treatments

The log reduction that is typically achieved by a given seed treatment is determined by immersing seeds in a solution containing a known concentration of pathogens (inoculum), drying them out, applying the treatment, and seeing how many pathogens, if any, survive the treatment.

There have been many published research reports on the effectiveness of various sanitization treatments, including the 20,000 ppm chlorine seed treatment recommended in the 1999 FDA Guidance¹. Differences in

the research methods used can have a significant effect on the log reductions achieved in this research. A standard set of protocols for seed sanitization research would aid in comparing the effectiveness of one treatment to another.

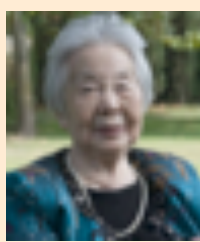
One major variable in seed sanitization research is the level of inoculum that is put on seed prior to applying the treatment

In a research paper published in 2004² the log reductions observed in various published research studies, using 20,000 ppm calcium hypochlorite to sanitize seed, were plotted on a graph in relation to the level of inoculum used in the research (Fig. 1). It was observed that the results ranged from nearly 7 logs, to less than 2 logs, with about 2.6 logs being the result most often observed.

This "most often observed" reduction has been interpreted to mean that this is the most probable reduction one would get when using this treatment to sanitize seed in



Vickie Louie
(1923 - 2011)



Co-founder of Louie Foods

Vickie, a longtime resident of Fresno, passed away peacefully on Wednesday, April 13, 2011. She will be sorely missed by family members and friends. Many will remember her as a hard worker, dedicated mother, great cook, and extremely generous to those she knew. She was short in stature, but big in heart. Vickie was born on May 26, 1923, in San Francisco. She, along with her husband Kenneth, started and ran a family business called Louie Foods back in the 1950's, supplying fresh bean sprouts and noodles to the San Joaquin Valley. She is survived by her children, Jay and Stephanie, Anita and Norman, Karen and Richard, and Arnold and Jennifer; her grandchildren, Alison and Brendan, Brian, Kelly, Kyle, Sean, David, Ryan, Matthew, and Jamie; and many nieces, and nephews. She also has a sister Lonnie; and a brother William.

Board of Directors

Officers

Bob Sanderson, President

Jonathan Sprouts

megadome@meganet.net

Carlos Gonzalez, Vice President

The Perfect Sprout

theperfectsprout@gmail.com

Joe Mahoney, Vice President

Jack & The Green Sprouts

sprouts@dishup.us

Rich Wolfe, Treasurer

ISGA

office@isga-sprouts.org

Bob Rust, Secretary

International Specialty Supply

bob@sproutnet.com

Directors

Michael Lalley

Living Foods Inc.

sproutsz@hotmail.com

Tao Liming

Ningbo Wulongtan Vegetable Foodstuff Co.

& China Agricultural University

taoliming@nbwlt.com

Jay Louie

Louie Foods International

louiefoods@aol.com

Steve Meyerowitz

Sproutman Publications

sproutman@sproutman.com

Yasuhiro Sahara

Daisey Machinery Co., Ltd.

sahara@daisey.co.jp

Carlos Stolzenbach

Caudill Seed Co., Inc.

saleessprout@caudillsprouting.com

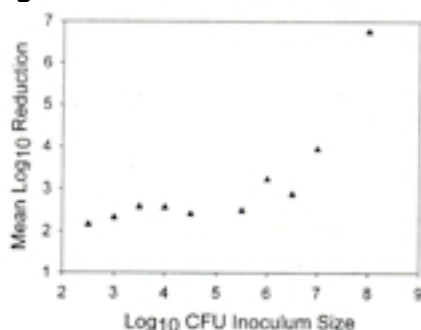
Jane Tsao

Biofarm, Inc.

jane@biofarm.cn

production. However, the same report also observed that reductions in the area of 2.6 logs were most often associated with starting inoculum levels of 3.5 - 5 logs. When the inoculum level was greater, greater log reduction was achieved, and when the level was lower, lower levels of reduction were achieved.

Figure 1



These research results did not include log reductions achieved with naturally contaminated seed, since the small amount of research that has been done using naturally contaminated seed has looked mainly at survival and regrowth of pathogens following the treatment, rather than measuring log reduction, per se.

The lowest inoculum level used in published reports, and plotted on the graph in Figure 1, is about 2.5 log 10 cfu/gram, or about 300-400 organisms per gram. Since the level of pathogens in naturally contaminated seed has usually been observed to be less than 25 cfu per kg, which is less than 1 organism per 40 grams of seed, this naturally occurring level is apt to be 10,000 times (4 log) lower than the lowest inoculum level used in research.

These high levels of pathogen inoculation are used in sprout sanitization research because it is difficult to work with very low levels, and large numbers of seed samples would be required.

It is important to look at the inoculum/log reduction relationship with a given sanitization treatment because the log reduction achieved may be as much a result of the inoculum level used, as an indication of the reduction that the treatment is likely to achieve in a sprout production setting. This could lead to an overestimation of treatment effectiveness. Conversely, it could lead to an underestimation, if there were a treatment that didn't show the greatest log reduction at high inoculum levels, but achieved a more consistent reduction with decreasing inoculum levels. An example of such a consistent reduction was described in an experiment using competitive exclusion as a pathogen control strategy.³

One problem in assessing the effectiveness of a sanitization treatment on naturally contaminated seed is that very little naturally contaminated seed is available for research. In the few instances where naturally contaminated seed has been used, the results seem to be equivocal with about half the experiments indicating treatment survival and regrowth⁴, and the other half indicating inactivation to below detection limits and no regrowth⁵. However, since most microbiologists believe that no amount of sampling and testing constitutes an acceptable indication of absence of pathogens, it may be risky to assume effective inactivation from the absence of pathogen detection in treated samples, just as it would be to assume that there were no pathogens present if the same sampling had been done on untreated seed.

In order to increase the available data on the performance of treatments on naturally contaminated seed, it might be possible for seed suppliers to locate

samples of seed that are likely to be contaminated, based on proximity of growing fields to contaminated irrigation water sources, or animal feed-lots, or recalled batches of seeds implicated in outbreaks. If more contaminated seed was available for sanitization studies, before-and-after contamination levels could be quantified, providing a much clearer picture of treatment effectiveness than we now have.

Another approach would be to develop mathematical tools for extrapolating from available data of reductions observed in research using high inoculum levels, to the very low levels observed on naturally contaminated seed. This extrapolation could generate hypothetical data points some distance to the left of the data points shown in Figure 1.

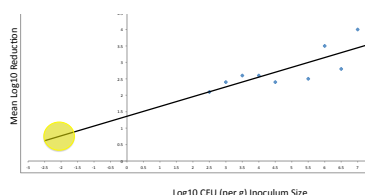
Figure 1 shows a very steep downward curve from high reduction levels at high inoculum levels on the right side of the chart, to lower reductions with lower inoculum levels to the left side. The curve appears to be leveling out, but with some variation. Since the right side of the chart represents inoculation levels that are furthest from the contamination levels that would occur in nature, the more representative area of the graph is probably the data points toward the left side. In looking at the shape of the curve in this area, it is not clear whether there is a consistent flattening, suggesting that a more or less horizontal line (indicating consistent log reduction) would be generated if continuing lower inoculation levels were used, or whether the dip between 4-log and 6-log inoculations is an anomaly, in which case, the last three data points on the left might be indicating a continuing decrease.

One way to estimate what might be going on at the low levels of natural

contamination is to use a mathematical procedure called linear regression. According to Wikipedia⁶, “If the goal is prediction, or forecasting, linear regression can be used to fit a predictive model to an observed data set of y and X values. After developing such a model, if an additional value of X is then given without its accompanying value of y, the fitted model can be used to make a prediction of the value of y.”

In the case of the data points in Figure 1, linear regression provides the line with slope shown in Figure 2.

Figure 2



If the low levels of pathogens found on naturally contaminated seed are thought of as the level of inoculation found in nature, they would be plotted in the area between -1.5 to -2.5 Log 10 CFU/g, shown in the highlighted circle. The “minus log” designation is used because if we are talking about low numbers of cfu/kilogram, then we are talking about less than 1 cfu per gram, with -1.5 cfu/g indicating about 1 cfu per 30 grams (or 33 cfu/kg, a high level), and -2.5 cfu/g indicating about 1 cfu per 300 grams, (about 3 cfu per kg, a low level).

The log reduction levels suggested by the linear reduction line at these low levels is between .5 and 1 log. Converting to familiar numbers, a 1 log reduction starting with a

contamination level of 33 cfu/kg would leave about 3 cfu/kg still viable after the treatment, and a .5 log reduction starting with 3 cfu/kg would leave only about 1 viable cell per kilo.

In either case, following the treatment, proliferation of survivors during the sprouting process would result in high levels in the sprouts.

When the log reduction/inoculation data from published research is plotted and extrapolated in this way, the log reduction at naturally contaminated levels appears to be considerably less than is what has been observed in much of the published research. For this reason, to assume that log reductions achieved with treatments in lab research are representative of what can be expected in production may be significantly overestimating what is actually likely to occur.

Until there are more exact ways of determining what is likely to be achieved with a given treatment in a production setting, the best we may be able to do is establish a standard protocol that will allow the results of using one treatment to be compared with the results from using another treatment. But even in this case, unless we can assume a similar inoculum/reduction relationship with all treatments, a reduction using treatment “A” that is x logs greater than the reduction achieved by treatment “B”, may not be a clear indication that the difference would carry over to what might happen in a production setting.

To make a more accurate assessment, either we need a lot more naturally contaminated seed for research purposes, or a given treatment needs to be applied to seed that is inoculated at a number of different levels. The changes in

log reductions at these different levels can be used to extrapolate what the actual log reduction is likely to be at the low levels that are likely to occur on naturally-contaminated seed.

Bob Sanderson
President, ISGA
President, Jonathan’s Sprouts
Email: megadome@meganet.net
Cell: 508-789-1132

The graph shown in Figure 2 is entirely the work the author of the present article, and is not intended to imply agreement by authors of cited references, or of the Journal of Food Protection. It is offered entirely for purposes of discussion.

¹ Guidance for Industry, Reducing Microbial Food Safety Hazards For Sprouted Seeds, Food and Drug Administration, Center for Food Safety and Applied Nutrition, October 27, 1999

² The graph in Figure 1 of this article is taken from Montville and Schaffner, “Analysis of Published Sprout Seed Sanitization Studies Shows Treatments Are Highly Variable” JFP Vol. 67, No. 4, 2004, Pages 758-765 and reprinted with permission from the author, and from the Journal of Food Protection. Copyright held by the International Association for Food Protection, Des Moines, Iowa, USA.

³ Growth of *Salmonella* on sprouting Alfalfa Seeds as Affected by the Inoculum Size, Native Microbial Load and *Pseudomonas Fluorescens* 2-79, Liao, C. H., Lett. App. Micro. 2008, v46-232-236.

⁴ Growth of *Salmonella* during Sprouting of Alfalfa Seeds Associated with Salmonellosis Outbreaks, Stewart, et. al., JFP, Vol. 64, No. 5, 2001, Pages 618-622.

⁵ Detection and Elimination of *Salmonella* Mbandaka from Naturally contaminated Alfalfa Seed by Treatment with Heat or Calcium Hypochlorite, Suslow, et al., JFP, Vol. 65, No. 3, 2002, Pages 452-458.

⁶ http://en.wikipedia.org/wiki/Linear_regression

Microbiological Data Program (MDP)

Written by Jay Louie

At any given time you could receive a telephone call from your local state health official advising you that a container of your product was found to be positive for *Salmonella*. You are asked to implement a recall immediately. How is this possible? Your spent irrigation water test results are negative for *Salmonella* for that batch of sprouts, yet you are told that their test results have come up positive for *Salmonella*.

The Microbiological Data Program (MDP) was initiated in 2001 by the USDA's Agricultural Marketing Service. The goal of MDP is to provide monitoring data on targeted pathogens in selected fruits and vegetables. Samples are collected close to the point of consumption (terminal markets and large chain store distribution centers) where lot numbers and grower/packer/distributors information is still obtainable. Samples are collected and sent to a participating laboratory. In the case of alfalfa sprouts, the laboratory is in Ohio. See www.ams.usda.gov/mdp.

MDP uses PCR (polymerase chain reaction) methods for detection of *Salmonella* and *E. coli* O157. CDC is immediately contacted in the event any pathogens are isolated from the MDP samples. CDC will, in turn, contact the local state health authorities to investigate independently or in collaboration with the FDA. When you get the telephone call, much will have taken place, and the product is almost past its "use by" date.

Along with the request for a recall, you are requested to publish a press release of the recall identifying the specific product and identifying code. You should also expect the local emergency response team to be dropping by at any minute for a full facility inspection.

With the communication technology available today, you should be able to obtain a copy of the test results and findings almost immediately. That information is critical in order to make an informed decision as to what to do. From reviewing the report, you will find out from whom the sample was taken, your identifying production code, and

the lab's finding of "Positive" for *Salmonella*.

Even though you have test results that the particular batch of sprout is negative for *Salmonella* (spent irrigation water test), there are conflicting final product test results. This is not a situation in which you can argue that your test should prevail. If there is the potential that contaminated sprouts are on the market, you do what you can to remove the product from the market.

As we know, the usual source of contamination is the seeds. From your identifying production code, you should be able to trace back and identify the seeds used to produce the product found to be contaminated with *Salmonella*. Because of the positive finding, all products produced from that particular seed lot are now suspect, and all sprouts produced from that seed lot, or with that seed lot must also be included in the recall. Unless there was a seed lot change you are essentially recalling everything that you have produced that is currently out in the market, stored in your facility but not yet distributed, or currently growing in your facility.

If you have been paying attention at the ISGA convention, you should have a recall plan in place already. If not, you are about to perform one in real time. Once you have identified all the sprouts grown from the single or multiple seed lots used in the contaminated package, you must identify from your sales records who may have purchased the product. You must then contact and explain to them (distributors) the reason for the recall, and ask that they, in turn, contact their customers (retailers) to pull the product from the market and to either return or destroy it. You should keep a record of who you called and when.

In the meantime, the regulators are inspecting your facility, pulling product and seed samples, collecting environmental samples and taking pictures of your facility, and interviewing your production staff. You will also be requested to provide copies all your production records and testing results relating to the product found to be

contaminated. Production is also terminated at this point. There is the assumption that your facility is contaminated, and all product in the course of production needs to be destroyed, regardless of the negative spent irrigation water test results.

While you are contacting all your customers, the regulators are requesting the publication of an immediate press release to notify consumers of the recall. If you have prepared for a recall, you should have a form press release that you can modify. Regulators will want a copy of the press release to review prior to publication. The press release may go through several revisions, until all parties agree to a final version. You will send one to the Associated Press for publication (FDA will give you the email address), and the FDA will also publish the press release on their web site.

Your first objective is to get the suspect product off the market. Your next objective is to get back in business. If you have another seed lot available, you can restart immediately. If you don't, you will need to get more seeds. The seeds used in the suspect product will be embargoed, and you will later be asked what you intend to do with them. Samples of these seeds will also have been taken for testing. If you have another seed lot available and want to restart production, you should validate that your facility is free from any *Salmonella* contamination before commencing. Regulators will have taken environmental samples already, but they will be very slow in getting the results to you. Once you can verify that your facility is free from contamination, you can restart production.

In 2009, the FDA launched the Reportable Food Registry at <http://rfr.fda.gov/> and started a new reporting requirement with a 24-hour deadline to tell the FDA if you find a "reasonable probability" that food will cause severe health problems or death. MDP discovery of *Salmonella* in your product is "reasonable probability" that your product can cause severe health

Continued on the next page ----->

Microbiological Data Program (MDP)

(Page 2 of 2)

problems requiring you, the manufacturer, processor, packer, and anyone who holds food for human consumption, to submit a report. The report is submitted online at the web site. The data required to be entered is very comprehensive, and may require hours to complete. You need to identify all customers who received the suspect product, and the form in which the suspect product is packaged. With each specific product package, you will need to provide your product codes for each identifiable product. Because the form will take a substantial amount of time to complete, the web site allows you to save the partially completed form for completion at another time. In reality, it is nearly impossible to complete the form within the 24 hour time limit.

Due to the publication of the press release, you will now be fielding questions from the media, consumers, and buyers. Be prepared to respond to their questions. The most important point is that the recall was initiated as a precautionary measure. Most likely, you will not know of any illness or injuries arising from the consumption of the suspected sprouts. Hopefully you never will.

Several sprout growers have faced this experience. You could be the next one. The most important thing to learn from reading this article is that you should be prepared. If you have a recall plan in place, things will go much smoother. Your HACCP records will all fall into place, allowing you to trace back the information you need to know.

USDA's MDP program has ceased to be purely research to collect baseline data. It has morphed into a regulatory oversight (The United Fresh Produce Association). A single positive test result has caused many growers to implement a recall. Recalls were published as a precautionary measure to prevent any illness from occurring. On behalf of the ISGA, I would also like to gather some data on the effectiveness of MDP. If you have implemented a recall of sprouts arising from an MDP positive finding, please contact me at LouieFoods@aol.com.

New Members in 2011

Growers

Thanh Tran
Joey Tran
22823 Spellbrook Bend Lane
Richmond, TX 77407 USA
Joeyytran@yahoo.com

The Gil Greenery
Seay Minor
Thegillgreenery@comcast.net

Katrin H. Arnadottir
Hiloarsmara 1, 201 Kopavogi, Iceland
Land@simnet.is

Suppliers

Ontario Specialty Grains
John Vieraitis
johnvieraitis@ontariospecialtygrains.com



Convention Registration

Rates for the Las Vegas

Convention October 19-20:

Grower Member, "Early Bird" \$585
Paid ISGA member by Jul 1
Registered for Convention by Sep 1

Grower Member, Standard \$685
Paid ISGA member by Jul 1
Registered after Sep 1

Grower Non-member \$785
Either never joined or joined/renewed
after Jul 1

Supplier Member, "Early Bird" \$785
Paid ISGA member by Jul 1
Registered for Convention by Sep 1

Supplier Member, Standard \$885
Paid ISGA member by Jul 1
Registered for Convention after Sep 1

Supplier Non-Member \$1,085
Either never joined or joined/renewed
after Jul 1

We are in the process of designing a special webpage on our site for secure online registration as we have done in the past. But, as always, please feel free to call, email, or mail your registration to the office at any time.

Please note that there will be some optional activities which may require additional payment such as various entertainment shows, golf, tennis, etc.

We will know more about the complete agenda as the subcommittee evaluates the possible scenarios and we will make you aware of the options, schedules, and costs as they become available.

The Convention subcommittee is presently working on the program and their next meeting is scheduled for May 25th. If you have any ideas about an activity or speaker you would like to see included this year, please contact the ISGA office.

Email inquiry:



From time to time, the office receives inquiries from companies with what may be business opportunities for our membership. We thought we might start sharing those in the newsletter. Please see one such example below.....

Hi ISGA,

We are a nutritional supplement company looking for wholesale bulk quantities of
DEHYDRATED RAW ORGANIC sprouted Flax and Buckwheat Seeds.

Can you refer me to several US and International companies which have the capability to produce over 15,000 lbs of these materials annually?



Any resource you can provide which may also provide large scale sprout business names would also be greatly appreciated.

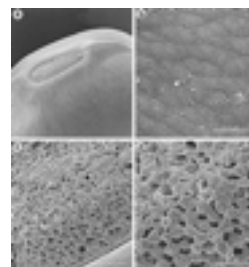
Kind Regards,

Scott R. Lindley
Production Manager
Galaxy Botanicals, LLC
3441 Galaxy Place
Oxnard, CA 93030
Phone: 805-604-7355
Fax: 805-604-7373
Cell: 541-680-4886

Photo contest results from last issue...



Honorable mention goes to Bob Rust who guessed Alfalfa seed coat. The picture, which was submitted by Barbara Sanderson, was a magnification of a Mung Bean seed. Thanks to all of those who participated.



Broccolisprout Rolls

=Roulade=

Butter	-----60 g
Flour	-----1/3 C
Milk	-----1 C
Parmesan cheese	-----1/3 C
Broccoli sprouts	-----1 C
Eggs	-----4

=To make the roll=

1. Heat butter in a pan and add flour. Mix well. Gradually stir in milk and cook until the mixture thickens.
2. Mix in the Parmesan cheese, sprouts, and egg yolks.
3. Beat egg whites and fold into the sprout mixture.
4. Pour the mixture onto an oven sheet and bake in oven for 15 - 20 minutes at 180°C.
5. Turn the roulade out on a wire rack to cool.

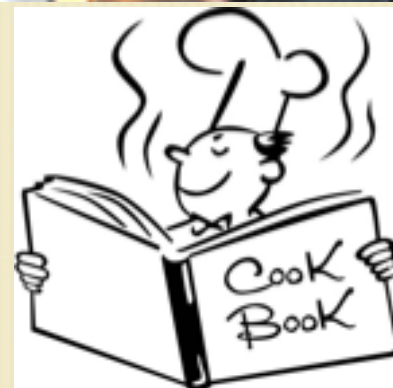
FROM THE SPROUT COOKBOOK:



6. Spread the filling on top and scatter on the Broccoli sprouts. Roll up.

=Filling=

1. Sauté sliced bacon and brown mushrooms in a frying pan.
2. Turn off heat and add cream cheese and sour cream. Mix well.



This is a Japanese recipe from Sumiyo Kawakami. If you have a recipe that you would like to add to the cookbook, please submit it to the ISGA Office.

Dear Dr. Sprout,



I am looking for a vegetable that will grow in any climate, will rival meat in nutritive value, will mature in 3 to 5 days, may be planted any day of the year, will require neither soil nor sunshine, will rival tomatoes in Vitamin C, will be free of waste in preparation and can be cooked with little fuel and as quickly as a ... chop.

Signed,
Hope Ng

Dear Ms. Ng,

Along with a team of nutritionists, I have spent years researching the amazing properties of sprouted soybeans. They and other researchers at the universities of Pennsylvania and Minnesota, Yale and McGill found that sprouts retain the B-complex vitamins present in the original seed, and show a big jump in Vitamin A and an almost unbelievable amount of Vitamin C over that present in unsprouted seeds. While some nutritionists point out that this high vitamin content is gained at the expense of some protein loss, the figures are impressive: an average 300 percent increase in Vitamin A and a 500 to 600 percent increase in Vitamin C. In addition, in the sprouting process starches are converted to simple sugars, thus making sprouts easily digested.

Sprouts can be locally grown and made available in all four seasons. These "wonder" vegetables grown from seed to salad in only one week are the best natural health food available. That makes them a great "new generation" food that can be eaten raw or cooked. In fact, one pound of alfalfa seeds can yield 10-14 pounds of fresh mini-salad greens. It is amazing to note that this food can be grown whether you are on top of a mountain or in a war area bunker with artificial light. Sprouts vary in texture and taste. Some are spicy (radish and onion sprouts), some are hardy and are often used in oriental food (Mung bean), others are more delicate (Alfalfa) and are used in salads and sandwiches to add texture and moistness.

Alfalfa sprouts have more chlorophyll than spinach, kale, cabbage or parsley. Alfalfa, sunflower, clover and radish sprouts are all 4% protein. Compare that to spinach - 3%, Romaine lettuce -1.5%, iceberg lettuce-0.8%, and milk -3.3%. These foods all have about 90% water. Soybean sprouts have 28% protein, and lentil and pea sprouts are 26%

compared to meat which is 19% and eggs which are 13% protein (and 11% fat). Thus, soybeans sprouts have twice the protein of eggs and only 1/10 the fat.

Grain and nut sprouts, such as wheat and sunflower, are rich in fats. While fats in flour and wheat germ goes rancid quickly (stores should refrigerate them), fats in sprouts last for weeks. The valuable wheat germ oil in wheat sprouts is broken down into its essential fatty acid fractions over 50% of which is omega 6. While sunflower oil is our finest source of omega 6, germination of the sunflower sprout micellizes the fatty acids into an easily digestible, water soluble form.

Radish sprouts have 29 times more Vitamin C than milk (29mg vs. 1mg) and 4 times the Vitamin A (391 IU vs. 126). These spicy sprouts have 10 times more calcium than a potato (51mg vs. 5mg) and contain more vitamin C than pineapple. If you examine what is happening during germination, it looks like a vitamin factory. While mature radishes contain 10 IU/100g of provitamin, the radish sprouts contain 391 IU, 39 times more!

Alfalfa, radish, broccoli, clover and soybean contain concentrated amounts of phytochemicals (plant compounds) that can protect us against disease. Canavanine, an amino acid analog present in alfalfa, demonstrates resistance to pancreatic, colon and leukemia cancers. Plant estrogens in these sprouts function similarly to human estrogen but without the side effects. They increase bone formation and density and prevent bone breakdown (osteoporosis). They are helpful in controlling hot flashes, menopause, pre-menstrual disorders and fibrocystic breast tumors.

Alfalfa Sprouts are one of the finest food sources of saponins. Saponins lower the bad cholesterol and fat but not the good HDL fats. Animal studies have proved their benefit in arteriosclerosis and cardiovascular disease. Saponins also stimulate the immune system by increasing the activity of natural killer cells such as T-lymphocytes and interferon. The saponin content of alfalfa sprouts multiplies 450% over that of the unsprouted seed.

Broccoli Sprouts have a mild peppery flavor. They are high in the cancer fighting compound sulphoraphane. Compounds in broccoli sprouts have been shown to reduce the risk of getting breast and colon cancer and to act as an anti-bacterial agent against

Helicobacter pylori, an organism associated with causing stomach ulcers. Broccoli sprouts rich in these compounds, through raising the antioxidant and thereby the anti-inflammatory capacities of cells, can correct major dysfunctions such as hypertension and stroke. Free radicals, unstable chemical byproducts of metabolism, damage cell molecules and lead to cardiovascular disease. Tissues have defenses to prevent the damage caused by free radicals. These defenses can be bolstered by eating foods rich in chemicals called phase 2 protein inducers, one of which is glucoraphanin. Broccoli sprouts contain high levels of glucoraphanin. Phase 2 inducers promote the production of phase 2 protein. These proteins either promote scavenging of oxidants or decrease the chance of the oxidants being formed. The result is a huge multiplier effect. One phase 2 protein inducer likely has the same effect as thousands of typical anti-oxidant molecules.

Clover Sprouts contain the most significant dietary sources of isoflavones of any sprout variety. Isoflavones have been proven to have powerful anti-cancer properties.

Lentil Sprouts are 26% protein. They can be cooked or eaten raw.

Radish Sprouts have 29 times more vitamin C than milk and 4 times the vitamin A. These spicy sprouts have 10 times more calcium than a potato and contain more vitamin C than pineapple.

Sunflower Sprouts are rich sources of lecithin and vitamin D. Sunflower sprouts are known for their crispness and nutty flavor. They break down fatty acids into an easily digestible water soluble form.

Mustard Sprouts are characterized by their tiny spicy leaves. They are delicate but very spicy.

Onion Sprouts give a distinct onion flavor without the tears and the waste! Onion sprouts are 20% protein and good source of vitamins A, C and D.

Mung Bean Sprouts are a good source of protein, fiber and vitamin C. A 3 oz serving contains only 30 calories.

Soybean Sprouts are very high in proteins and high in vitamin C, folate and fiber.

Dr. Clive M. McKay

Hurray! Hurray!

Long Awaited Promotion Program Started this Month

Written by Barbara Sanderson

Steve Meyerowitz has been working hard as chair of the Promotions Committee to pull together a plan with the Strata Marketing Partners, LLC. ISGA Treasurer, Rich Wolfe, has helped to recruit the necessary 12 companies to get the three month trial off the ground. Twelve Charter companies are contributing \$250/month each to this unique ISGA effort.

Steve, Rich, Paul Pliakas, Poul Heilmann, Bob Rust and Barb Sanderson met by phone to establish the target dates, discuss responsibilities and clarify some of the objectives.

Please join us in supporting this program. We will need other contributors to fund expenses beyond the basic \$3,000 a month fee, and if we are satisfied with the trial, we will want to keep the momentum going with contributions from other companies. All money contributed will be spent to target sprout buyers, sprout consumers and strengthen our industry. Here is the Three-Month trial plan.

Three-Month Communications & Public Relations Assignment

April - June 2011 Overview

The International Sprout Growers Association (ISGA) has hired StrataMarketing Partners, LLC (SMP) to research, design, develop and execute a defined range of marketing communications, awareness-building, and public relations efforts for a 3-month pilot running from April 1 to June 30, 2011. The main objectives are to:

1. Establish the foundation for building positive awareness and sales growth for sprouts through greater outreach to consumers and the media
2. Establish fundamental communication processes for managing unforeseen events such as recalls
3. Create promotional marketing programs for use by local growers to build awareness and sales
4. Generate increased membership and participation for the ISGA

The specific tasks defined during the trial months for an ongoing PR campaign are as follows:

1) Sprout Health Benefits Foundation

Framing - Preliminary work that encourages and enables growth of Sprouts consumption.

- * Distillation of key health benefits for broad communication (e.g. PR releases, website)
- * Marketing Communication Plans

2) PR Member Company Recall Management - What to do during a recall

- * stock press releases
- * talking points for spokespeople and growers

3) PR Member company Tools for Building Awareness & Sales

- * Public Relations messaging with a focus on communicating the positive health benefits of sprouts, while neutralizing negative news associated with product recalls.
- * Press Releases - Creation and Dissemination to build awareness for Sprouts
- * Promotion Ideas-Creation, development and execution assistance
- * Press Kit & Guide – Key elements and a checklist for managing PR and the media

4) PR Member company Local Grower Sales Growth

Promotions:

- * 2 to 4 ways to promote sprouts to the end consumer
- * In-store / Out-of-Store Concepts & Tools
- * Local PR Concepts & Tools
- * A concise guide to developing your local brand

5) ISGA New Member Recruitment – A systematic approach to increasing membership

Plan Development:

- * Target Identification
- * Benefits of ISGA Membership
- * Messaging – The right message to the right people at the right time
- * Tactical Plan – e.g. direct mail, e-mail, blogging, phone
- * Calendar of recommended membership development activities

FROM THE TREASURER...

Thanks to all of those who have renewed for 2011 and welcome to the new members. I wanted to mention that we are entering the season when the convention hotel and the related vendors are looking for deposits to secure our event. Information will be going out shortly regarding the agenda and there will be a registration page on the website for our annual gathering. Please renew your membership at your earliest convenience, and then register for the convention as early as you are able - it will assist us both in planning the various events and in meeting our financial obligations.

Also, please note that for \$250/month (3 month commitment) companies can become PR members and receive the tools as they are developed along with help on their local campaigns. Become a member at:

www.isga-sprouts.org/contributiongen.htm

and receive the benefits of this remarkably inexpensive way to create and maintain good PR for your own company and, as more companies join, a broad based international energy for sprouts. All are welcome to join.

Thank you,
Rich Wolfe

Draft of Sprout Safety Audit

presented to the sprouting community
at IFSH in Chicago on April 27th

There are 5 areas in the audit where the sub-committee feels more input is needed. The audit is considered incomplete without answering these questions. Meanwhile, Robert Strong has agreed to take the audit as it is on a test run and Brian Gorman of Chicago's Indoor Garden has agreed to be the test company.

The following questions, indicated by page number in the current draft audit, address those five areas:

1. P. 7: The audit asks the grower to have a letter from seed suppliers indicating they are expecting acceptable standards of GAPs, GMPs and CCPs from their growers - Bob Rust and Stephen Benjamin are forming a seed supplier sprout safety standards subcommittee of the task force to establish attainable standards for acceptable GMPs and CCPs. P. 19: The audit asks the seed supplier for a certificate of conformance - seed sampling and testing - This will be developed as part of the Seed Supplier Standards.

2. P. 7: Seed Sanitization - Appendix C. There is presently only one specified method of sanitizing all seed, and that is the guidance suggestion of something such as 20,000 ppm $\text{Ca}(\text{ClO})_2$. This appendix needs to be populated with sanitization techniques that have already been shown to be effective relative to the 20M chlorine, but would be more appropriate for different seeds and conditions, as well as for organic seeds. Existing research should be selected by a sub-committee and submitted to our expert science review panel for inclusion in this appendix. Ongoing research will also be able to be added with a similar review process.

3. P. 10: Validated test kits for spent irrigation water - Appendix B. There are presently 3 test kits listed in this appendix. Are there PCR kits that have been validated (That is, is the IEH PCR system of testing sprout spent irrigation water available to other labs, or can it be listed as validated? If it is validated, at this time, it is only validated for use by one of the IEH labs.) We need a sub-committee (probably the same committee submitting sanitization research to the expert review panel) to submit possibly helpful information to all growers about what is available for testing the spent irrigation water, and what are the protocols that must be followed with those specific test kits. It was brought up that we need to define validation protocols as well as water sampling protocols. Thomas Hammack made a presentation to the group later in the morning where he presented the CFSAN "Validation of Screening Tests; AOAC Methods Validation Criteria" ([see link to PowerPoint presentation on the last page of this newsletter](#)). We may want to ask the NCFST to validate an additional test or two using this protocol.

4. P. 21: Every Batch Sampling - Appendix D. We need more clearly stated methods for sampling different sprouts grown in different growing systems, including a more precise definition of what a "batch" is. Can two drums be pooled? If the batch contains more than 100 lbs of seeds, should two testing samples be drawn from the one batch? Can batches of some seeds (ie. mung beans, pea shoots, etc.) be larger for sampling than batches of alfalfa, for instance? p.22: Sampling after 48 hours. What is an acceptable variation from 48 hours? Is the level of pathogens significantly reduced, for instance, at 46 hours? 40 hours? p.22: Temperature of storing and shipping

samples to the lab for testing - TJ's unpublished research indicates that the level of pathogens in the sample is not significantly reduced at room temperature for the first 24 hours, but after that time, the sample should be refrigerated, because the level can drop significantly. It was suggested that samples should be shipped iced unless it is certain they will be tested before the 24 hour time period. It was also pointed out that if the sample freezes, no pathogens will be found.

5. P. 26: Scoring - Should we go to a "Pass/Fail" scoring? A "High/Medium/Low"? We need help on this one. In any case, we have decided that we want this audit to end with a list on "non-conformances" that the grower will have to correct within a certain time frame.

It is now time for the Task Force members to decide which sanitation research to submit to our expert review panel for possible inclusion in the appendix C. Also, with some of these areas where more input is needed, the Task Force members may wish to enlist the NCFST in research to clarify some of the mysteries that we cannot answer as sprout growers who are following the guidelines in this audit continue to experience outbreaks and recalls that are damaging to both the grower and to the sales of sprouts across the country.

Respectfully submitted,
Barb Sanderson



Public Relations for the Sprout Industry

It is time to remind the public just how good sprouts really are. It's time to stand up for ourselves when sprouts are accused in an outbreak or a recall. In the past, we have been largely inaccessible to the media and our reputation has suffered because of it. But now, with our new affiliation with Strata Marketing Partners (www.stratamarketingpartners.com) we are pulling together a multifaceted program to revive our industry. The National Sprout Health & Wellness Month is only one of several efforts to raise public awareness about the numerous benefits of our product. Here are some of our public relations efforts and tips on how you can join us.

National Sprout Month

Strata plans to send out a series of national press releases about the health and nutritional benefits of eating a diet that includes sprouts. This special month provides an excellent opportunity for educational interaction with your major accounts, your wholesalers, and the general public. You can connect with the public in your region indirectly through your wholesalers or directly by offering tasting sessions at stores, farmers markets, fairs, and other local happenings. ISGA will provide the templates for the PR materials and handouts. You just add your local information. Use them at live events. We will also support you in sending out press releases to your local media and informing you on how to use email and social media. Our PR team will provide each company with the nuts and bolts of what to say and how to do it. All you have to do is add your company information and hit the send button.

Crisis Response

As a member of our PR team, you will have support materials and guidelines so that you are better prepared in case of an outbreak or after a recall. Sure, we're working very hard to avoid an outbreak, but we also need to be ready for one, just in case. The best way to do that is to create relationships with the press. This

enhances our standing with both the local and national media. And it tells consumers that their well being is a priority for us. With proactive public relations, we can turn a negative into a positive.

Join this PR Effort

Together, we have clout. When we pool our resources, we improve our own business as well as the public perception of our industry. It is all for our mutual good. As an organization, we can communicate with one voice to the national press. We will strive to make allies with other associations and interested parties. As you know, there is lots of false information out there especially on the internet where anything goes. Our PR effort assures consumers and sets the story straight. Join us as we build a rapid response plan that supplies accurate information that takes precedence over misinformation. As part of our PR team, you'll learn how to use e-mail lists, web pages, blogs, and social media such as Facebook, Linked In, and Twitter.

How Much?

Our PR effort costs only \$250/month with a commitment of 3 months. Join now when things are quiet, so you will be in the best position to get help in times of need. This is an investment in both the protection and the expansion of your business. Please see the link below for a secure online contribution or mail it to the office.

<http://www.isga-sprouts.org/contributiongen.htm>

Steve Meyerowitz
Chair ISGA PR Committee
www.Sproutman.com

Word received from our friends in Japan after the tsunami and earthquake...

Dear Mr. Bob Sanderson,

I much appreciate for your warm-hearted sympathy to us & Japanese Growers Association's members. Though I would hesitate to say about us under the terrible situations that the total of the dead and the missing might be estimated to be more than 20,000 and there are 450,000 refugees who lost their houses, luckily we all at Daisey are secure including our families. But unfortunately, some of our customers were suffered from the terrible catastrophe that forced them to stop their production. Now we all at Daisey are doing our best to help them to restart their operation stopping our daily work. Now the government and all people in Japan are making a united effort to solve the serious damages getting a lot of help from the US and many other foreign countries. Thank you very much again for your kind E-mail and it definitely encouraged us to stand up to these serious and huge problems. Sincerest regards from Japan.

Noboru Ishikawa
Daisey Machinery Co.,Ltd.

And from our Facebook page.....

Takashi Sueda 2011年3月20日

14:56

Re: Greetings

Hello Rich, thank you. We are okay..

ISGA WANTS TO HEAR FROM YOU!

Calling all members! We want to hear what your company is doing these days. In the coming months we will be ramping up our yearly membership campaign and with that comes a new membership directory. This year, the office has thought to include a picture and brief description of what you are doing in the

world! So send us a quick blurb and a photo of yourself, your mascot, your logo, or your sprouting headquarters. Please e-mail your information to office@ISGA-Sprouts.org and include your company's website so we can link to it from the ISGA website!



We want to know what you're up to!

PRESENTATIONS FROM APRIL 27TH IFSH CONVENTION

Links to the presentations:

[AGENDA sprout safety task force meeting - Apr 27 \(pdf\)](#)

[Procedures for sampling of spent irrigation water \(pdf\)](#)

[Sprout safety audit comments \(pdf\)](#)

[Validated test kits for sprout irrigation water \(pdf\)](#)

[Validation of Screening Tests; AOAC Methods Validation Criteria](#)

[Anti-microbial treatments for sprouting seeds \(pdf\)](#)

[Criteria for reviewing submitted research results \(pptx\)](#)

[Sprout safety task force update April 27 2011 \(ppt\)](#)

[Risk management options for sprouts - Dr. Ding \(ppt\)](#)

[Safety requires multiple interventions - Caudill Seed \(ppt\)](#)

[Presentation of guidance - Dr. Rajkowski \(pptx\)](#)

*****If you have trouble opening any of the above links, please e-mail [Rich Wolfe](mailto:Rich.Wolfe@ISGA-Sprouts.org) for the member username and password.**

Many thanks to the IFSH and the speakers.



International Sprout Growers Association
733A Bald Hill Road
Warwick, RI 02886
www.isga-sprouts.org
508-657-ISGA (4742)