ISGA NEWSLETTER

VOL. X, III

GOOD SPROUT NEWS

"Sprouting Solutions"

UNIFYING THE GLOBAL SPROUT INDUSTRY

By: Bob Sanderson, President ISGA

Is there enough to go around? Enough of the good things in life, and especially, enough food? Or do we live in a world where only a few people can possibly have enough?

When I was a kid, there seemed to be little question that the rate of population increase would result in a situation where there would not be enough food to go around. If I remember right, the point at which we would run out of food was quite a few years ago. The population of the world was less than half then what it is today, and yet we seem not only to have more food today than we had then; we actually have more food per person.

Even though this seems to be true, there are many people in the world today who do not have enough to eat. But when I was a kid, and when there were less than half as many people living on the earth as there are today, a greater proportion of those people were hungry than is the case today, when there are more than twice as many people.

How can this be? The only possible explanation is that our ability to produce food has increased faster than the population has increased. The people in this room are part of that phenomenon; we have companies that produce food at a rate that to most people seems completely impossible.

.If I use my company as an example, the size and production output of my company is tiny compared to the output of many of your companies. But when I tell people how much my company produces, they are amazed. Often they will ask how big the farm is, and I tell them that its productive area is about 9,000 square feet (810 sq meters). They can't believe that a farm this size could produce so much food.

But we have to understand this incredible productivity in an accurate context. There is the little detail of the

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Upcoming Events

Sept. 2010

September 2nd - Board of Directors Conference Call

Fall 2010

Annual Membership Renewal Campaign

Contact the office for information on how you can earn some money off your 2011 membership! We also have a new webpage for membership renewals! ISGA is now using PayPal to aid in registration. Visit that site here.

Spring 2011

2011 ISGA Convention - Las Vegas

If you have a great idea for a speaker or event, or if you are interested in joining the Convention Committee, please e-mail Carlos Gonzalez, chairperson of the Convention Committee.

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 by September 15, 2010.

seed, this magic material that comes to my company in bags, stacked on pallets in trucks. But seed doesn't just magically appear in bags.

I think it would be wonderful if our sprout company could be on the same piece of land where the seed is grown. Since the seed is a necessity for growing sprouts, having the farm, where the seed is grown, at the same location as the sprouting facility, might give a truer perspective of the actual size of my sprout company.

We grow many types of sprouts at our company; about 10 in all. The yield from seed to sprout ranges from less than 2 to 1 for some types of sprouts, to about 8 to 1 for others. I know that for some of you, the ratio is bigger. For a company that grows sprouts at a very high ratio of sprout to seed, the land required to grow the seed is relatively less.

Also the productivity in seed per acre or hectare varies considerably. For the types of sprouts we grow at my company, I believe the seed production ranges from 200 to 300 pounds per acre (225 to 336 Kg per hectare), to as much as 2,000 pounds per acre (2,240 Kg per hectare).

To calculate how big the farm would be, to produce all the seed that my company uses in a year, I can take an average of the lowest and highest yields in terms of sprout-to-seed, and multiply it by the average seed yield per acre. To be accurate, I would have to also calculate how much of each type of sprout we produce- which I am too lazy to do.

Simplifying the arithmetic, I will say that on average, my company uses seed that yields a 6 to 1 ratio of sprouts to seed, and we use seed that is produced on farms at an average yield of about 1,000 pounds per acre or (1,120 Kg per Hectare). So if we calculate the production of my company in terms of sprouts per acre, we would get about 6,000 pounds per acre. Or, converting to the metric system, that would be about 6,720 Kg per hectare.

I hope you're following all this.

What we have to do at this point, to see how big this farm would be, is calculate a year's production of sprouts for my company, in pounds, and divide it by 6,000, and we can determine how big the actual farm would be in acres.

If I tell you how many pounds of sprouts my company produces per year, some of you may think that's a pretty big company. But compared to many of your companies, Jonathans Sprouts is a tiny company. One of the very interesting things about this group is that there is such a wide range of sizes of our companies.

I want to go to a different subject for a moment, and talk about the importance to the sprouting industry of including producers that are very small, as well as producers that are very large. Yesterday at the panel discussion, the subject came up, of the cost of complying with Global Food Safety Initiative requirements. I know that there is good reason for these expensive audits, but it would be a great loss if they put small companies out of business. To give you an example, the microgreens that we enjoyed at the reception on Wednesday evening were produced by a very creative grower who has a very small company. I am quite sure that if she had to comply with GFSI requirements, she would not be in business. It is often easier for a small company to develop creative new products, and we need these small companies to bring new energy and ideas to the sprouting industry.

I could say the same thing for Jonathans Sprouts. We never would have gotten started if we had to have expensive quality controls in place. Today, it would be impossible for a new company to start up, in the same way we did. Although there are reasons for this, and we don't want companies coming into the market that are not following safe production practices, I think its in all of our best interests to try to identify the critically important safety factors, rather than just accepting very detailed and complicated safety standards that may inhibit experimentation and new product ideas.

The joint Sprout-NCFST Task Force is working on a way to identify the key procedures for safe sprout production without burdening producers with expensive, but not critical details.

Getting back to my earlier subject, if we see the sprouting facility as an extension of the field where the seed is grown, how big a farm would that be?

Jonathans Sprouts produces about 25,000 pounds (11,340 Kg) of sprouts a week. Multiplied times 52 weeks per year, that comes to about 1,300,000 pounds (589,680 Kg) per year. So if an acre of farmland is required for each 6,000 pounds of sprouts, the farm that provides all the seeds for my company would be about 220 acres, or 89 hectares.

If you see me after the convention, I will provide you with the formula for calculating the size of the farm that produces all the seed that your company uses in a year.

Now I will ask a sensitive question. How big would we like our businesses to become?
Probably the answer is "Bigger". But, since we produce one of the most nutritious foods that exists, let's say that we would like everyone on earth to have at least one meal of sprouts per day. If we could bring this about, we would be providing a great service to humanity! So, let's consider this to be our objective.

For purposes of visualization, how big would the farm have to be to provide enough seed to produce enough sprouts so that everyone on earth could have one meal of sprouts per day? What would a convention be without lots of numbers? Say one meal is 4 ounces (113 g), for 365 days a year is 91.25 pounds (41.39 Kg) of sprouts per person per year. Times 6 billion 500 million people is 593,130,000,000 pounds (269,040,000,000 kilograms) of sprouts per year.

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Now we need to figure out how big the farm has to be to produce that amount of sprouts.
Since we have calculated that 89 hectares can produce enough seed for my company, and my company produces 1,300,000 pounds of sprouts per year, converted to kilograms is 590,000 kilos, then without going into all the details, and hoping my arithmetic is right, the farm that produced enough seed to grow sprouts so that everyone on earth would have one meal of sprouts per day would have to be about 98,855,000 acres (40,022,270 hectares) in size.

Converting to square miles, that's 154,461 square miles (400,227 sq kilometers). That's a farm about 395 miles (633 kilometers) on each side. That seems very big!

That's a lot of land; almost 3% of the arable land for agriculture. It would be a worthwhile project for the sprout industry to investigate the nutrition this amount of land would provide when used for sprouting seed production, compared to a comparable area used to produce other food crops.

What is the purpose of this exercise? I started out talking about the fact that when I was a kid, the people making the predictions about running out of food have, so far, turned out to be wrong. There is more food per person today than there was then, and the population has more than doubled. And this can only be because the production of food has increased faster than the population. One reason for this is that we are continually developing ways of producing food that are more efficient, and even a small business like Jonathan's Sprouts is an example of this.

Nowadays there is growing concern over the proper use of the world's resources, and there is a growing feeling that we cannot indefinitely keep on doing business as usual.
So it might be a worthwhile exercise to consider whether sprout production is an efficient use of resources, in terms of nutrition. Is it a good and efficient way to use farmland?

This would be a complicated thing to try to figure out, which I haven't done. But there
is one thing that we can say about the nutrition yield of the seeds that are used to grow sprouts, compared to most other crops. Dr. Galloway's talk yesterday, with its disturbing picture of the growing obesity crisis in the affluent countries, is clear proof that all food is not equal. There is good food, and not so good food, and there is food that is actually bad.

I think I could make an argument that the land that produces the seed used for sprouting is producing good food. Whereas other land, that might have a higher yield in terms of pounds of production, that goes into food that has had the nutrition taken out of it by processing, and had a lot of flavors added to it, is not actually so productive.

So we could say that using land to grow seed to produce sprouts is automatically a more efficient use of land, than land used to crops food that do not produce nutritious food.

If we look at the relationship between the sprouting facility itself, and the land that produces the seed that is used for sprouting, we see that the sprouting facility is taking the seed from the field, and making it much more nutritious than it is, simply as a seed. If we compare this to what happens to crops grown for other foods, we will often see a completely opposite relationship in terms of nutrition. That is, in most cases, the crop is harvested from the field, and then processed in some way that makes it less nutritious.

In this perspective, a sprouting facility could be seen as a nutrition expansion facility, whereas many food processing operations could be seen as nutrition reduction facilities.

If we see ourselves as operators of nutrition expansion facilities, then we can begin to appreciate that sprouts are not just another food, and that what we do may have some importance in the big picture of good nutrition.

There are two main parts to the big picture: one is the large numbers of people who still don't have enough to eat, and the other is the people who have plenty to eat, but are eating the wrong things. With both groups- even with people who don't have enough to eat- there is the fact that people like to eat what they are used to eating- and this is a big challenge in achieving our goal of one portion of sprouts per person per day. It is not enough to simply produce this amount of sprouts. We also have to develop more ways to prepare sprouts that people will want to eat. This will probably require that we develop ways of introducing sprouts into existing dietary preferences, which is actually a great opportunity.

Today we will get a demonstration of one person's success in developing new uses of sprouts. We are very fortunate to have a very creative chef, Sumiyo Kawakami, who has come all the way from Japan to prepare our lunch. Many, if not all of these recipes will be original. I have no doubt that they will all be delicious. So we can take a lesson from Sumiyo in how we can find ways to create new and appetizing uses of sprouts, for all people around the world.

Footnote and sources:
Here's the math.

- 1000 lbs seed/acre average
- 6:1 average yield
- 6,000 lbs/yr sprouts/acre
- 4 oz daily portion
- 24,000 daily portions per acre
- 6.500,000,000 people
- 270,833 acres per day = 109,649 hectares per day
- 98,854,165 acres per year = 40,021,929 hectares per year
- 640 acres per sq mile - 100 hectares per sq Kilometer
- 154,460 sq miles - 400,220 sq kilometers
- 395 miles per side - 633 kilometers per side
- 15 million sq kilometers of land on earth is considered arable.*
- About 2.7% is needed to produce seeds for sprout production.

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THE "ORIGINAL GREEN BAGS" & SPROUTS

Lynn Evert, founder of Evert Fresh, came to Chicago to speak to us about packaging. Coincidentally, just prior to his presentation, he had received a picture that was featured in the Daily Mail, showing one cosmonaut and one astronaut using the green bags while aboard the international space station.

Evert Fresh avoids chemicals and additives and their products are environmentally friendly. In fact, the history of the bag traces its effectiveness back to a naturally occurring mineral. When researchers were seeking better ways to preserve foods they stumbled upon farmers in some regions of the world had housed produce in mountain caves, which were naturally cool and dark, but also included a clay on the walls called oya. This clay, as research would later show, turned out to be a natural absorbent of ethylene gas. This gas, otherwise known as the "death" or "ripening hormone" is given off by produce and is then reabsorbed enhancing the production of ethylene and ripening the produce until spoilage.

The bags are 100% organic and are presently being shelf life tested at Jonathan's Sprouts with promising early results in the packaging of bean sprouts. Please contact Lynn Evert directly for more information and be sure to welcome him as the newest member to ISGA.

This article was contributed by Rich Wolfe, ISGA Treasurer

Don't forget to join our group on Facebook!

Click here to link to the ISGA page!

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Fond Memories: Pearson Food Tour

2010 ISGA Convention - Chicago

Pictured here, outside of Pearson Food's production site in Michigan, from left to right: Antonio Urena, Jonathan Ego, Barbara Sanderson, Bob Sanderson, Shannon O'Neill, David Pearson, Sandra Pearson, Bridget Dadds, Liz Reilley, Bob Rust, Kathy Cowan Rust.

2010 Production Tour Packaging Line

Pearson Foods production line hard at work.

2010 Production Tour Rotary Drums

David Pearson addressing our group before the tour.

Creating a Culture of Food Safety among Our Employees

Dear Dr. Sprout:

Can you help me find some training materials for my employees?

Need Help

Dear Mr. Help,

I had the luxury of growing up in the sprout business with the increasing emphasis on safety and I remember well our various resistances to things like hats, coats, gloves... to just touch the tip of the iceberg. We had to create a culture of food safety in our operation such that employees simply would not do certain things, such as walking into the packing room without first putting on a hair net, beard guard, lab coat, washing hands, sanitizing hands, putting on gloves, sanitizing the gloves... etc. These things have to become so much a part of the routine that employees feel dirty or undressed if they ignore them.

In older sprout companies, employees have been doing things in a certain way for a long time that may create risks. We must bring ourselves and our employees into more consciousness about cross contamination from our own operation: floors, water, outdoor contaminants, etc. It is also important to make sure new employees are well trained. Keep a look out for employees who are resistant or cynical about the rules. Training/retraining takes a long time, even retraining ourselves and our key people. We must be persistent and develop a regular, weekly training program. Half an hour to 45 minutes once a week with our employees, or some of them, and some safety information will add up tremendously over the years. Start with the first step and keep at it faithfully.

There is a CD available that we use to train new employees and refresh older ones. We have a specific time every Monday morning when we play a segment of the video and invite employees to watch it. They sign off for each segment they watch until they have seen the whole video. It can be ordered using the form at this link.

Or it is available on the internet in a series of separate modules that you can show your employees, click here.

The FDA and the CDC really have our industry under a microscope. Outbreaks and recalls are very expensive, and not just for the companies involved, but more and more affecting the whole industry. The only way we stand a chance in today's environment is to develop a culture of food safety among our employees. They are the ones who maintain all the safety standards that we create to assure safety. We have a safety team of a group of employees whose job it is to search out and bring to our attention all areas of potential contamination or any laxity in following the safety protocols we develop. The only companies I know of who have not had an outbreak or recall are the ones who really take this seriously. Spending a small amount of time and money on a regular schedule is like investing in a good insurance policy.

Sincerely,

Dr. Sprout

Unifying the Global Sprout Industry

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*Of the world's total land area of 150 million km2 (16 X the area of the US), much is not suitable for agriculture. Arable land comprises 10% of the total. Permanent crops are 1%; meadows and pastures, 24%; forest and woodland, 31%. The remaining 34% is land surface that supports little or no vegetation: Antarctica, deserts, mine sites, urban areas.

http://www.globalchange.umich.edu/globalchange2/current/lectures/food_supply/food.htm#prod_land

Corrections

We would like to apologize for an incorrect caption in our previous issue of "Good Sprout News." We have corrected our mistake and republished the photo below. This is a photo that was taken during the President's Dinner Cruise at the Chicago 2010 Convention.

Toshiro Niwa & Enomoto Katsuyoshi of Daisey Machinery

Board of Directors
Summary of Current Business

Our board of directors meets once per month via telephone conference to conduct the business of ISGA as well as debate timely issues within the industry.

During the August meeting the board discussed the following:

- Bob Sanderson announced the appointment of Mr. Tao Liming, President of the Bean Sprout Industry Branch Association, China Agriculture Economic Development Association (BSIBA-CAED) as a non-voting ex-officio member of the ISGA Board of Directors. Congratulations Mr. Tao Liming!
- Convention 2011 - Las Vegas, NV. Carlos Gonzalez is still researching the best (most cost

effective) option for our Las Vegas venue. The hotel that is chosen will dictate the dates of the convention. For more information or if you are interested in joining the convention committee please e-mail Carlos.

- By-Laws, the ISGA website (isga-sprouts.org) and an ISGA position statement are all being examined by the board and it's sub-committees. More to come!
- The NCFST Sprout Task Force is still progressing with the checklist, but is interested in hearing from anyone with suggestions for areas to be explored by the committee and addressed in the checklist. Suggestions should be e-mailed to Barbara Sanderson.

For more information about any of the topics discussed by the board of directors or to request an item be brought before the board, please contact Rich Wolfe.

The next meeting will be held on September 2nd, 2010.

Summary provided by
Bob Martinez, ISGA Secretary

From the Sprout Cookbook:

Beansprout & Pesto Pizza

1 - 13 oz Pizza Crust

1/2 cup (1/2 large) red onion, sliced

2 - lg cloves garlic, coarsely chopped

1 cup prepared pesto (approx. 8 oz)

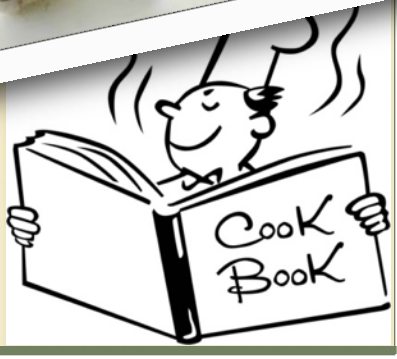
4 oz MUNG BEAN SPROUTS

1 - 6 oz bag shredded mozzarella or pizza cheese

Preheat oven (and pizza stone if you have one) to 450° F. Fry onion and garlic in olive oil on medium high until golden. Meanwhile, spread pesto on pizza crust to cover. Sprinkle onion and garlic over

pesto, then uncooked bean sprouts and finally cover the whole pizza with shredded cheese. Transfer onto stone or cookie sheet and bake 10 minutes.

MAKES 6 PIECES



This recipe was submitted by Jonathan Sprouts, Inc. in Rochester, MA. If you have a recipe that you would like to add to the cookbook, please submit it to Bob Martinez.

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 decided to include a picture and brief description of what you are doing in the sprout world! So send us a quick blurb and a photo of yourself, your mascot, our logo or your sprouting headquarters.

Please e-mail your information to Bob Martinez. Also, company's with a website should let us know so we can link to it from the ISGA website!

We want to know what you're up to!

LINK TO THE PRESENTATIONS FROM CONVENTION

Day 1 Talks

Food Safety Australia Slides - Amanda Hill

ISGA Sprout Task Force - Armand Paradis

ISGA Safety Seed - Benjamin

Sprouts and the Obesity Epidemic - James Galloway

Japan Safety Slides - Latiful Bari

Determination of Pesticides Residues in Food - Canping PAN

Sprout Audit Checklist (Second Draft)

Tangential Flow Filtration Paper - K. Warriner

Bacteriophage Research Paper - K. Warriner

Bacteriophage Sprouts - K. Warriner

Sanitizer Research Paper - K. Warriner

Pathogen Distribution in Mung Bean Beds Paper - K. Warriner

Risk Management - Richard Whiting

Day 2 Talks

Health Promoting Foods - Britt Burton-Freeman

Health Benefits of Sprouts ISGA Flyer

Roots of Health Enhancing Sprouts - Elizabeth Jeffery

Talk and Recipes - Sumiyo Kawakami

Branding Plan and Process - Paul Pliakas

Recipe Book - Sumiyo Kawakami

*****If you have trouble opening any of the above links, please e-mail Rich Wolfe for the member username and password.**

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