Tea Association of the USA, Inc.

World Green Tea Conference

Shizuoka, Japan

Peter F. Goggi
Tea Association of the USA, Inc.

Tea Association of the USA, Inc.

• Formed in 1899 to protect the Tea Industry in the USA from harm
• For 117 years it has defended the industry
• Since 1991 actively promoted Tea & Health
• Established Tea Education Arm in 2002, which has become an Industry Standard under the auspices of the Specialty Tea Institute (STI)
Tea Association of the USA, Inc.

**Vision**

To enable sustainable growth of the US Tea Market as a whole while guiding our membership through an ever changing external environment.

**Mission**

The Tea Association of the USA is the recognized independent authority on Tea, acting as the official voice for its members on issues related to the tea industry.

**Values**

Our Core Values are to be ethical, knowledgeable, collaborative and forward looking in all our activities.

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**2013 - 2016 Strategy**

- **Regulatory**
  
  Ensure the Industry is made fully aware of applicable U.S., EU, etc., Regulations and their impact.

- **Guidelines**

  Propose and implement Standards for the Tea Industry in areas not governed under current U.S. Regulations, as well as in white spaces created by new products, forms and consumer trends.

- **Membership**

  Drive Association, STI and Council to be an invaluable resource to its members. Ensure Financial Viability of the Tea Association by maximizing membership.

- **Communication**

  Enhance communication to all members by leveraging technology, industry networks, membership collaborations and global industry experts. Ensure Tea & Health Messaging remains focused, rooted in science and undiluted.

- **Talent & Staffing**

  Have the right people with the right skills in place to support the Association. Leverage the expertise of the Association’s Membership to drive tea.
Total Tea Import History

Imports ‘000 pounds

Black & Green Tea Imports
‘000 lbs
Green Tea Imports
‘000 lbs

Growth of the Tea Market in U.S. Dollars

<table>
<thead>
<tr>
<th>1990 $Value by Type</th>
<th>2015 $Value by Type (Est)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Traditional</td>
<td>Traditional</td>
</tr>
<tr>
<td>$ 0.87 Billion</td>
<td>$ 2.58 Billion</td>
</tr>
<tr>
<td>RTD</td>
<td>RTD</td>
</tr>
<tr>
<td>0.20 &quot;</td>
<td>5.56 &quot;</td>
</tr>
<tr>
<td>Food Service</td>
<td>Food Service</td>
</tr>
<tr>
<td>0.50 &quot;</td>
<td>1.23 &quot;</td>
</tr>
<tr>
<td>Special</td>
<td>Special</td>
</tr>
<tr>
<td>0.27 &quot;</td>
<td>2.09 &quot;</td>
</tr>
<tr>
<td>Total</td>
<td>Total</td>
</tr>
<tr>
<td>$1.84 Billion</td>
<td>$11.50 Billion</td>
</tr>
</tbody>
</table>

- Green $20 Million
- Green $1.65 Billion

Tea Sales ($) Forecast to Double over Next 5 Years
- Package Facts

- Dollar value of tea in the United States will grow from ~ $10.84 Billion in 2014 to nearly $13 billion by the end of 2016!
- Green Tea is growing at a much higher rate than Black Tea
  - up over 200% volume over the last ten years
Green Tea Consumption

• Tea (Black & Green) is consumed anywhere/anytime
  – Green Tea consumption still trails Black Tea by 6 : 1

• Green Tea is seen as “good for you”

• Green Tea is beginning to be seen as “good tasting”
  – Traditional black tea consumers find the taste of green tea to be polarizing
  – Matcha is “Hot”

• Green Tea consumption is being encouraged by:
  – Registered Dietitian Nutritionists
  – Medical Community
  – Fitness Community
  – Specialty Tea Community

• Coffee Still is “King” of the Morning
Goal

Increase tea consumption by building a consensus for tea’s role in a healthy diet
How to Build a Consensus for the Health Benefits of Tea – Strategic Solutions

- Worked with scientific community to validate scientific research
- Conducted international symposia featuring leading international researchers
- Published proceedings in credible scientific journals
- Implemented systematic, aggressive media relations campaigns

Building Credibility For Tea with Research-Based Symposia

- First International Scientific Symposium on Tea & Human Health: Physiological and Pharmacological Effects of *Camellia Sinensis* (Tea), 1991
  - Ford Foundation, New York City
  - Proceedings published in *Preventive Medicine*
  - Launched Tea & Health initiative
  - *The New York Times* article helped create market for green tea
Building Credibility For Tea with Research-Based Symposia

- **Second** International Scientific Symposium on Tea & Human Health USDA, Washington, DC, 1998

- **Third** International Scientific Symposium on Tea & Human Health: The Role of Flavonoids in the Diet; USDA, Washington, DC, 2002

- **Fourth** International Scientific Symposium on Tea & Human Health USDA, Washington DC, 2007

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Fifth International Scientific Symposium on Tea & Human Health
September 19, 2012
Jefferson Auditorium
U.S. Department of Agriculture, Washington, DC
Visit www.teausa.org to register

Co-Sponsored by:

- American Cancer Society
- AMWA
- ASN
- American Institute for Cancer Research
- Tea Council of the U.S.A., Inc.
- Prevention Institute
Tea & Health Symposium: Leadership

- Enhanced credibility through third-party co-sponsoring organizations & scientific leadership
- Jeffrey Blumberg, PhD, FASN, FACN Professor, Nutrition Science and Policy Director, Antioxidants Research Laboratory Jean Mayer USDA Human Nutrition Research Center on Aging Tufts University

Prestigious Sponsors & Steering Committee

- Marji McCullough, ScD, RD
American Cancer Society

- Harry Preuss, MD, MACN, CNS
American College of Nutrition

- Susan Higginbotham, PhD, RD
American Institute for Cancer Research

- Mary Guinan, PhD, MD
American Medical Women’s Association

- Sharon M. Donovan, PhD, RD
American Society for Nutrition

- Balz Frei, PhD
Linus Pauling Institute

- Jonathan Hodgson, PhD
University of Western Australia

- Richard Draijer, PhD
Unilever Food and Health Research Institute

- Kaison Chang
Food and Agricultural Organization
Symposium Consensus on Tea & Health Benefits

The consensus emerging from the 2012 Tea & Human Health symposium was: “drinking at least a cup of green, black, white or oolong tea a day can contribute significantly to the promotion of public health.”

“There is now an overwhelming body of research from around the world indicating that drinking tea can enhance human health.”

Jeffrey Blumberg, PhD
Professor, Friedman School of Nutrition Science and Policy and Director, Antioxidants Research Laboratory, Jean Mayer USDA Human Nutrition Research Center on Aging at Tufts University, Boston

Symposium Media Coverage

Results

• Garnered more than 1.2 Billion total media impressions
  – Secured placements in top national print, online and broadcast outlets including USA Today, NPR, Doctor Radio (Sirius XM), The Atlantic, Examiner.com, The Chicago Sun Times, Atlanta Journal Constitution
• 233 attendees, comprised of high level researchers, health organizations, government officials and tea industry executives
• Continued media efforts in top outlets including U.S. News & World Report, Real Simple, EatingWell.com, among others
Studies suggest that drinking green tea can help you drop pounds and trim your waist. What can a cup of tea do for your health? Dr. Jeffrey Blumberg says that the compounds in tea may affect virtually every cell in your body to improve health.

Top researchers in the tea-health field propose tea as part of the approach to weight loss, heart health, and bone/muscle strength. A study found drinking just one cup of black tea before consuming a high-fat meal supported healthy arterial function.

Green tea is a minimally processed tea that contains high concentrations of a plant antioxidant EGCG, which may help with weight loss. Green tea shrinks your stomach. Meet your bikini-body secret weapon. The brew's antioxidants may help block fat absorption.

Studies show drinking two to three cups of black tea helped subjects stay alert and focused on tasks. Green tea to quell inflammation. Studies suggest that drinking green tea can help you drop pounds and trim your waist.

AJCN Supplement of Symposium Proceedings

*Extend impact of Symposium science for more than a year following the proceedings by publicizing journal publication*

- Coordinate and manage manuscript gathering and submission to AJCN
- Invite health & nutrition professionals and media to announce publication of the proceedings and provide supplements to high level influencers and media
- Encourage a new round of media coverage of Symposium science
- Present published research to 2015 Dietary Guidelines for American’s Committee
Declared National Hot Tea Day

Established a moment in time to talk about and promote tea by declaring the first-ever National Hot Tea Day – celebrated annually on January 12.

Results!

• Publicized National Hot Tea Day through a press release and targeted media outreach, highlighting health benefits and consumer survey statistics in outreach
• National Hot Tea Day accepted to Chase’s Calendar of Events
• More than 157 million media impressions resulting from outreach

#NationalHotTeaDay on Twitter

On January 12, 2016, there were more than 300 tweets using the hashtag #NationalHotTeaDay including Teavana/Starbucks, David’s Tea, Bigelow, among others

Potential Reach

On January 12, 2016, there were more than 300 tweets using the hashtag #NationalHotTeaDay including Teavana/Starbucks, David’s Tea, Bigelow, among others
Created News about Tea Year-Round

Pique media interest year-round with angles and content that appeal to a broad range of media outlets and genres reaching younger as well as older consumers

Results!
- Publicized the health benefits of tea using Tea Council’s research and resources by leveraging key time periods throughout the year
- Uncovered new findings from 2015 consumer survey data specific to black tea, and millennials
- Distributed press releases timed to Dietary Guidelines for Americans and Iced Tea Month
- More than 163 million media impressions resulting from the outreach

Tea in the Media

The Health Benefits of Tea

June is National Iced Tea Month

Green Tea

How to Drink Green Tea for Weight Loss

10 REASONS TO DRINK MORE TEA

Leveraged Content to Grow Social Presence

Built the Tea Council’s social media presence by creating targeted and timely content to reach existing & new audiences and establish the Tea Council as the go-to source for all things tea.

Results!
- Twitter
  - 3,624 total followers
  - 880 new followers since January 2015
  - 32 percent growth in followers since January 2015
- Facebook
  - 2,592 total likes
  - 121 new likes since January 2016

2016 Public Relations Program: Total Results
January 2016 – August 2016

To date, the 2016 public relations program has resulted in 322,421,036 total media impressions

Cost per thousand impressions* (CPM) of $0.38

CPM is calculated by budget ÷ impressions x 1,000
- A range of $5.00 - $10.00 is considered a successful CPM by the PR industry—the equivalent of 12,500,000 - 25,000,000 impressions for the 2016 PR program

*One impression = one reader or viewer reached through PR efforts, determined by the audience numbers of each individual piece of media coverage
Launch #PositiviTEA Social Promotion

Launch Twitter/blogger promotion in November 2016 to create awareness of National Hot Tea Day 2017

• Create a fun, interactive promotion that engages millennials via Twitter with a tea prize

• Tea has so many positive health benefits. Encourage millennials to share their positiviTEA experiences

• Possible entries could include:
  • Upload photos of favorite tea benefit, time, place, experience
  • Explain your positiviTEA in 144 characters or less
  • Share video of the positive benefits from tea

• Twitter posts use #positiviTEA to enter promo and create buzz about tea

Launch #PositiviTEA Social Promotion

We will launch the contest through select lifestyle, health and wellness bloggers

• Offer basket of tea samples to encourage bloggers to promote Tea Council’s photo sharing sweepstakes
  – Potential to have tea samples provided by members

• Bloggers will have the opportunity to host giveaway

• Pitch will highlight announcement of sweepstakes, National Hot Tea Day, health benefits of tea, popular pairings, etc.
Tea & Health
2017 Core PR Program
Recommendations

2017 PR Plan Overview

Traditional Media Relations
Create fresh media worthy ways to communicate the science behind the tea and health message

Social Media
Leverage social media to promote tea as a modern beverage with ancient roots

Crisis Management
Prepare for and respond to crises
Continue to support the tea and health message and keep tea top-of-mind among media and consumers as the go-to beverage

- Maximize key news periods, utilizing health research, stats, etc.: Hot Tea Month, Iced Tea Month, Heart Health Month, BBQ Season, Flu Season, etc.
- Pitch consumer and trade health, lifestyle, nutrition and food media at magazines, blogs/websites and newspapers
- Focus on different types of tea in each pitch, including both hot and iced varieties of green, black, oolong and white teas
- Draft and disseminate a press release over PR Newswire for two key seasons (Hot Tea Month & Iced Tea Month)
Social Media
Build on PositiviTEA Photo Sharing Sweepstakes

Build on momentum from 2017 photo sharing sweepstakes and continue to engage millennials with the #PositiviTEA social promotion

- Launch promotion in Nov. 2017 to create awareness of National Hot Tea Day 2018
- Launch contest via select lifestyle, health and wellness bloggers
- Offer basket of tea samples to encourage bloggers to promote Tea Council’s photo sharing sweepstakes
- Bloggers will have the opportunity to host giveaway
- Press release/pitch will highlight announcement of sweepstakes, National Hot Tea Day, health benefits of tea, etc.

Social Media: Create Twitter Content

Continue to build the Tea Council’s social media presence and following by engaging both existing and new audiences on Twitter and Facebook.

- Utilize Tea Council’s resources to create interesting, easily-digestible, headline-driven content about tea
- Develop year-round content for @TeaCouncil
- Posts could include consumer survey statistics, health benefits research, news articles, food and beverage trends, fun facts
- Leverage new images and recipes from 2017 incremental ideas
Reactive Outreach

While the Tea Council promotes the health benefits of tea, the Tea Association will respond to crises.

01 Crisis management situations managed in the past:
   • Oxalate Levels in Tea
   • Tea Estate Working Conditions
   • Green Tea & Hepatitis

02 Assess and respond to negative media coverage of the tea industry, as needed

03 Counsel USTA on possible crisis scenarios

04 • Develop media messaging and statements
   • Track media coverage

2017 Incremental Programs
Healthy Aperture Blogger Campaign

Partner with top healthy food, lifestyle and registered dietitian bloggers from Healthy Aperture to create awareness of the tea and health message and drive original online and social media coverage of tea timed to National Iced Tea Month

- Activate 10-15 bloggers who each develop a tea recipe based on pre-determined guidelines
- Bloggers author posts highlighting key messages, recipes and images
- Bloggers share blog posts socially with designated campaign hashtag and include @TeaCouncil
- Garner 1.5MM impressions through blog posts & social shares
- Drive traffic to Tea Council’s social media channels
- Own all recipes & images for promotional use

Amplify PositiviTEA Social Promotion

Partner with influential registered dietitian blogger, Carlene Thomas of Healthfully Ever After, to spread the word about the Tea Council’s #positiviTEA social promotion

- Develop blog post highlighting health benefits of tea, National Hot Tea Day and encouraging readers to enter the sweepstakes
- Create two tea recipes, with beautiful images, that will be featured in the blog and shared via social media channels
- Recipes and images can be used by the Tea Council for promotional purposes
- Host twitter chat to create buzz and increase Tea Council twitter followers
RD Media Network: Get Trusted RDs to Talk About Tea

Leverage credible, influential registered dietitians with a broadcast media presence to reach consumers with news of the health benefits and versatility of tea

- Provide RDs with tea and health research, stats, etc.
- Secure 4-5 broadcast TV segments in key U.S. markets throughout the year

Consumer Survey: Generate Buzzworthy Content About Tea

The 2015 consumer survey was a huge success and provided newsworthy content for two years – used in both traditional and social media outreach.

Continue to bolster media coverage with fresh content and commission a second survey about tea drinking habits and perceptions of the health benefits of tea to create news. Considering tapping into a new audience of tea drinkers – Generation Z.

Juxtapose survey findings with scientific facts to generate a press release, news angles and eye-catching headlines that create new media interest.
Create the *Guinness Book of World Records* “Largest Cup of Tea” in Rockefeller Center, near the Today Show, to create consumer buzz and secure national media attention – timed to Hot Tea Day/Iced Tea Day.

- Distribute press release – highlight tea and health message – to announce event to create broad scale media exposure
- Invite national and local media to attend the event
- Offer interviews with tea expert such as Peter Goggi
- Encourage consumers to take, post, share images with the World’s Largest Cup of Tea on social media

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**Crop Chemicals**
Pesticide Issue - Background

• 2008 - Few MRL tolerances established for tea
  – Only 3 in the USA
    • Over 99% of the tea consumed in the USA is imported
    • Repeal of the Tea Importation Act of 1897, March 1996
    • Tea was imported under the authority of the U.S. Tea Examiner
    • Organoleptic Evaluation only
    • No MRL’s required

• 2008 - Multiple containers of tea detained
  – Levels of lead and chemical residue
  – 30 Containers in which USTA was asked to intervene
  – Number escalated to 40
  – Importation of tea came to virtual standstill

• Detection
  – 3 chemicals were detected:
    • λ-cyhalothrin
    • Bifenthrin
    • Fenvalerate

• The Association commissioned a scientific study demonstrating that the 3 pesticides posed zero risk to human health Immediate Penalties Imposed
  – FDA rejected the 30 containers of tea that had been inspected
  – FDA rejected based it being a matter of law not public safety
  – FDA released the 10 containers that had not yet been inspected

• Agreement Reached with the FDA
  – FDA officials agreed to use enforcement discretion provided we put forth good faith efforts to fix the problems
  – Our legal bill for 2008 exceeded $80,000

• Worked with FDA/EPA and created relationship with IR-4
  – Successful registration of multiple Pesticides

Pesticides Approved For Use in Tea

Chemicals Authorized for Use – Prior to 2008

<table>
<thead>
<tr>
<th>Chemical</th>
<th>PPM</th>
<th>Most Recent Federal Register Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Glyphosate</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tea: Dried</td>
<td>1</td>
<td>10/1/1980</td>
</tr>
<tr>
<td>Tea: Instant</td>
<td>7.0</td>
<td>10/1/1980</td>
</tr>
<tr>
<td>Propargite</td>
<td>10</td>
<td>8/1/2007</td>
</tr>
<tr>
<td>Pyriproxyfen</td>
<td>.02</td>
<td>8/22/2007</td>
</tr>
</tbody>
</table>
Progress

**Chemicals Currently Authorized for Use on Tea in the USA**

<table>
<thead>
<tr>
<th>Chemical</th>
<th>PPM</th>
<th>Most Recent Federal Register Date</th>
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</thead>
<tbody>
<tr>
<td>Acetamiprid</td>
<td>50</td>
<td>2/10/2010</td>
</tr>
<tr>
<td>Azoxystrobin</td>
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<td>5/1/2015</td>
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<tr>
<td>Bifenthrin</td>
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<td>9/14/2012</td>
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<tr>
<td>Buprofezin</td>
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<tr>
<td>Carfentrazone</td>
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<tr>
<td>Chlorantraniliprole</td>
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<tr>
<td>Clothianidin</td>
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<td>3/29/2013</td>
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<tr>
<td>Dinofuran***</td>
<td>50</td>
<td>9/26/2012</td>
</tr>
<tr>
<td>Dinotefuran</td>
<td>50</td>
<td>9/12/2012</td>
</tr>
<tr>
<td>Endosulfan</td>
<td>24**</td>
<td>6/2/2013</td>
</tr>
<tr>
<td>Ethoprop</td>
<td>30</td>
<td>4/6/2011</td>
</tr>
<tr>
<td>Etofenprox</td>
<td>5</td>
<td>11/27/2013</td>
</tr>
<tr>
<td>Etoxazole</td>
<td>15</td>
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<td>Fenpropathrin</td>
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<td>Fenproximate/Fenpyroximate</td>
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<td>12/12/2012</td>
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<td>Tea: Dried</td>
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<td>Propiconazole</td>
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<tr>
<td>Spinosad</td>
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<td>Spiromesifen</td>
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<tr>
<td>Thiamethoxam</td>
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</tr>
<tr>
<td>Tolifenpyrad</td>
<td>30</td>
<td>1/9/2014</td>
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</tbody>
</table>

*Higher Tolerance Expected by end of 2016  
**Will expire July 31, 2016

**Progress**

**Pending Chemical Registrations in the USA**

<table>
<thead>
<tr>
<th>Chemical</th>
<th>Expected Tolerance Year</th>
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</thead>
<tbody>
<tr>
<td>Acequinocyl*</td>
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<tr>
<td>Chlorfenapyr*</td>
<td>2017</td>
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<tr>
<td>Cyantraniliprole*</td>
<td>2016</td>
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<tr>
<td>Cyfluthrin</td>
<td>2016</td>
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<tr>
<td>Cypermethrin</td>
<td>2016</td>
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<tr>
<td>Fenazaquin*</td>
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</tr>
<tr>
<td>Flonicamid*</td>
<td>2017</td>
</tr>
<tr>
<td>Fluazinam*</td>
<td>2017</td>
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<tr>
<td>Flubendiamide*</td>
<td>2017</td>
</tr>
<tr>
<td>Imidacloprid*</td>
<td>2016/17</td>
</tr>
<tr>
<td>Permethrin</td>
<td>2016</td>
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</tbody>
</table>

* Submitted

**Prohibited Chemicals**

- DDT
- Chlorpyrifos
- Endosulfan
- Ethion
- Fenvalerate
- Lindane
- Methidathion
- Profenofos
- Tetradifon
- Triadimethon/Triadimenol
- Triazophos

**NOTE THESE CHEMICALS SHOULD NOT BE USED ON ANY TEA PRODUCT ROUND FOR USA**
Progress

Food Handling & Storage Applications*

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<tr>
<td>Acephate</td>
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<tr>
<td>α - Cypermethrin</td>
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<td>Chlorfenapyr</td>
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<td>Chlorpyrifos</td>
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<td>Cyfluthrin</td>
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<td>Gamma Cyhalothrin</td>
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<td>Magnesium phosphide</td>
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<tr>
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<td>Naled</td>
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<tr>
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<td>Prallethrin</td>
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<td>Resmethrin</td>
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<tr>
<td>Z - Cypermethrin</td>
<td>0.05</td>
<td>Jan 09, 2008</td>
</tr>
</tbody>
</table>

*The above tolerances are established for treatment of food commodities in handling and storage facilities.

What does the Future Offer

The coming new world....

In 1998, Kodak had 170,000 employees and sold 85% of all photo paper worldwide. Within just a few years, their business model disappeared and they became bankrupt.

What happened to Kodak will happen to a lot of industries in the next 10 years - and most people don't see it coming.

In 1998, did you think that 3 years later you would never take pictures on paper again?

Yet digital cameras were invented in 1975. The first ones only had 10,000 pixels, but followed Moore's law.

So, as with all exponential technologies, it was a disappointment for a long time, before it became way superior and got mainstream in only a few short years.

It will now happen with artificial intelligence, health, autonomous and electric cars, education, 3D printing, agriculture and jobs.

Welcome to the 4th Industrial Revolution.
What does the Future Offer

Welcome to the Exponential Age.

Software will disrupt most traditional industries in the next 5-10 years.

Uber is just a software tool, they don’t own any cars, and are now the biggest taxi company in the world.

Airbnb is now the biggest hotel company in the world, although they don’t own any properties.

Artificial Intelligence: Computers become exponentially better in understanding the world.

This year, a computer beat the best Go player in the world, 10 years earlier than expected.

In the US, young lawyers already can’t find jobs. Because of IBM Watson, you can get legal advice (so far, for more or less basic stuff) within seconds, with 90% accuracy compared with 70% accuracy when done by humans.

There will be 90% less lawyers in the future, only specialists will remain.

Watson already helps nurses diagnose cancer 4 times more accurately than human nurses.

Facebook now has pattern recognition software that can recognize faces better than humans.

In 2030, computers will become more intelligent than humans.

What does the Future Offer

Autonomous cars: in 2018 the first self-driving cars will be available for the public.

Around 2020, the complete industry will start to be disrupted. You don’t want to own a car anymore.

You will call a car with your phone, it will show up at your location, and drive you to your destination.

You will not need to park it, you will only pay for the distance driven, and can be productive while driving.

Our kids will never get a driver’s licence, and will never own a car.

It will change cities, because we will need 90-95% less cars.

We can transform former parking space into parks. 1.2 million people die each year in car accidents worldwide.

We now have one accident every 100,000 kms. With autonomous driving, that will drop to one accident every 10 million kms. That will save a million lives each year.

Most car companies might become bankrupt.

Traditional car companies try the evolutionary approach, and just build a better car, while tech companies (Tesla, Apple, Google) will do the revolutionary approach and build a computer on wheels. Engineers from Volkswagen and Audi are completely terrified of Tesla.

Insurance companies will have massive trouble because without accidents, insurance will become 100x cheaper.

Their car insurance business model will disappear.

Real estate will change, because if you can work while you commute, people will move further away to live in a more beautiful neighborhood.

Electric cars will become mainstream in 2020.

Cities will be less noisy because all cars will run on electricity.
What does the Future Offer

Electricity will become incredibly cheap and clean: solar production has been on an exponential curve for 30 years, but you can only now see the impact. Last year, more solar energy was installed worldwide than fossil energy. The price for solar will drop so much that all coal companies will be out of business by 2025.

With cheap electricity comes cheap and abundant water. Desalination now only needs 2 kWh per cubic meter. We don't have scarce water in most places, we only have scarce drinking water. Imagine what will be possible if anyone can have as much clean water as he/she wants, for nearly no cost.

Health
The Tricorder X price will be announced this year. There will be companies who will build a medical device (called the "Tricorder" from Star Trek) that works with your phone. It will take your retina scan, your blood sample, and you will breath into it. It will then analyse 54 biomarkers that will identify nearly any disease. It will be cheap, so in a few years everyone on this planet will have access to world class medicine, nearly for free.

Business opportunities
If you think of a niche you want to go into, ask yourself, "In the future, do you think we will have that?" and if the answer is yes, how can you make that happen sooner? If it doesn't work with your phone, forget the idea.

And any idea designed for success in the 20th century is doomed in to failure in the 21st century.

Work
70-80% of jobs will disappear in the next 20 years. There will be a lot of new jobs, but it is not clear if there will be enough new jobs in such a short time.

Agriculture
There will be a $100 agricultural robot in the future. Farmers in 3rd world countries can then become managers of their fields instead of working in their fields all day. Aeroponics will need much less water.
The first petri-dish produced veal is now available and will be cheaper than cow-produced veal in 2018. Right now, 30% of all agricultural surfaces are used for cows. Imagine if we don't need that space anymore. There are several startups who will bring insect protein to the market shortly. It contains more protein than meat. It will be labeled as an "alternative protein source" (because most people still reject the idea of eating insects).

By 2020 there will be apps that can tell by your facial expressions if you are lying. Imagine a political debate where it's being used to show if the politicians are telling the truth, or not.
Bitcoin will become mainstream this year and might even become the default reserve currency.

Longevity
Right now, the average life span increases by 3 months per year. Four years ago, the life span used to be 79 years, now it's 80 years. The increase itself is increasing, and by 2036, there will be more than a one year increase per year. So, we all might live for a long, long time, probably much longer than 100.
What does the Future Offer

**Education**
The cheapest smartphones already cost $10 in Africa and Asia. In 2020, 70% of all humans will own a smartphone.

That means everyone has the same access to a world-class education.

Every child in the world will be able to use Khan Academy to learn everything children in First World countries learn.

Software has already been released in Indonesia, and will be released in Arabic, Swahili and Chinese this summer, because of enormous potential.

There will be an English app for free, so that children in Africa can become fluent in English within six months.

What does the Future Offer

**How Does Tea Succeed in This Future and With These Consumers??**

**How Can Japanese Tea Grow Globally in This New World??**
Future Generation – Class of 2020

Since they arrived on this planet....
There has always been a digital swap meet called eBay.
West Nile has always been a virus found in the U.S.
Vladimir Putin has always been calling the shots at the Kremlin.
Cloning has always been a mundane laboratory procedure.
The United States has always been at war.
Euros have always been the coin of the realm...well, at least part of the realm.
Serena Williams has always been winning Grand Slam singles titles.
They have never had to watch or listen to programs at a scheduled time.
John Hinckley has always been able to get out of the hospital to go for a walk.
Each year they've been alive the U.S. population has grown by more than one million Latinos.
Vaccines have always been erroneously linked to autism.
Laws against on-the-job harassment have always applied to parties of the same sex.
Catholics and Lutherans have always been in agreement on how to get to heaven.
To greet them with some cheery news, when they were born, India and Pakistan became nuclear powers.
If you want to reach them, you’d better send a text—emails are oft ignored.
Books have always been read to you on audible.com.
Bluetooth has always been keeping us wireless and synchronized.
X-rays have always been digital allowing them to be read immediately.
Exxon and Mobil have been one company—and it doesn’t own any gas stations.
They have always eaten irradiated food.
A Bush and a Clinton have always been campaigning for something big.
Snowboarding has always been an Olympic sport.
Deceased men have always been able to procreate.
They have never seen billboard ads for cigarettes.
The New York Stock Exchange has never reported its ups and downs in fractions.
Airline tickets have always been purchased online.
There have always been iMacs on desks.
Robots have always been surgical partners in the O.R.
Michael J. Fox has always spoken publicly about having Parkinson's disease.

Conclusion

❖ Green Tea Will Continue to Grow
❖ Health Messages Will Continue to Support Consumption
❖ Specialty Tea will Drive Trial
  ❖ Availability
  ❖ Consumer Knowledge
❖ Japanese Tea Can Get Its Fair Share
❖ Unique Processing
  ❖ Matcha
❖ Historical Significance/Ceremony
❖ Address Consumer Concerns
❖ Crop Chemicals