



NAVIGATING THE FSMA LANDSCAPE THROUGH PARTNERSHIP & TECHNOLOGY

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What are the major drivers ?

RECALLS, PENALTIES ON THE RISE



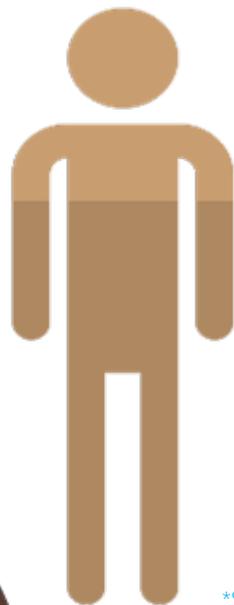
- Since 2002, number of food recalls have nearly doubled in the U.S.
- 77% of companies that experienced food safety recalls suffered financial losses up to \$30 million
- Cases of bankruptcy, harsh penalties



CONSUMER CONFIDENCE WANING, ATTITUDES CHANGING

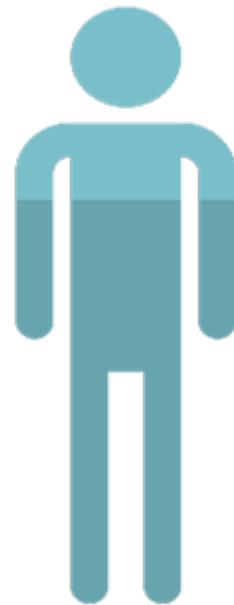


More than half of U.S. grocery shoppers cite **chemicals in foods** and **safety** as leading factors that have put our country's food production process on the wrong track.



65%

want to know
how their food
was processed



50%

acknowledge that while
food processing with
chemicals is not a deal
breaker, it is **something**
they try to avoid



BIG BRANDS LOSING VOLUME

Recent surveys show about half of the American public does not trust big food conglomerates, something their buying habits reflect....

Since 2009, major food brands are down \$18 billion—\$4 billion last year alone.*

MARS



Nestlé



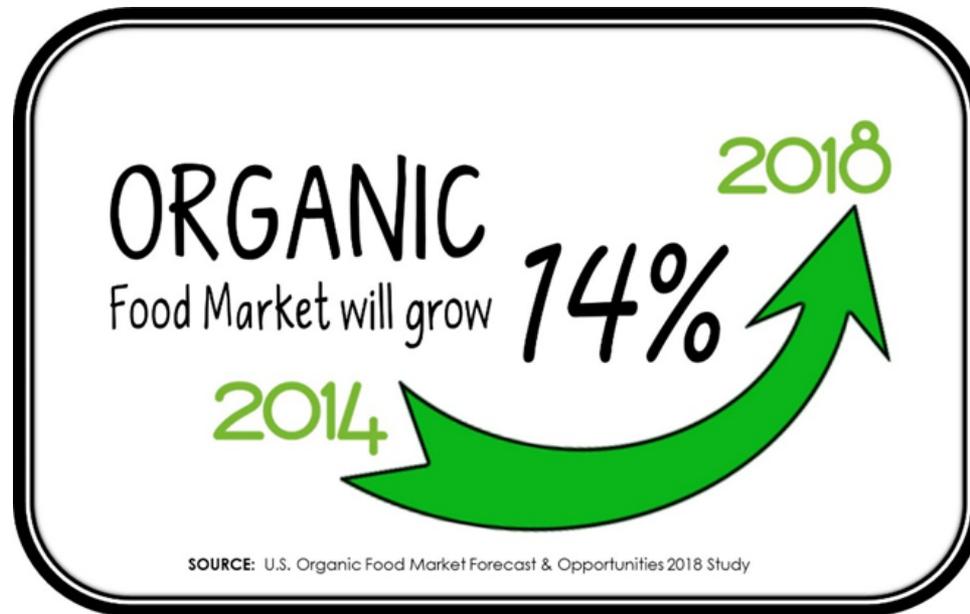
*Special Report: The war on big food Fortune – May 21, 2015

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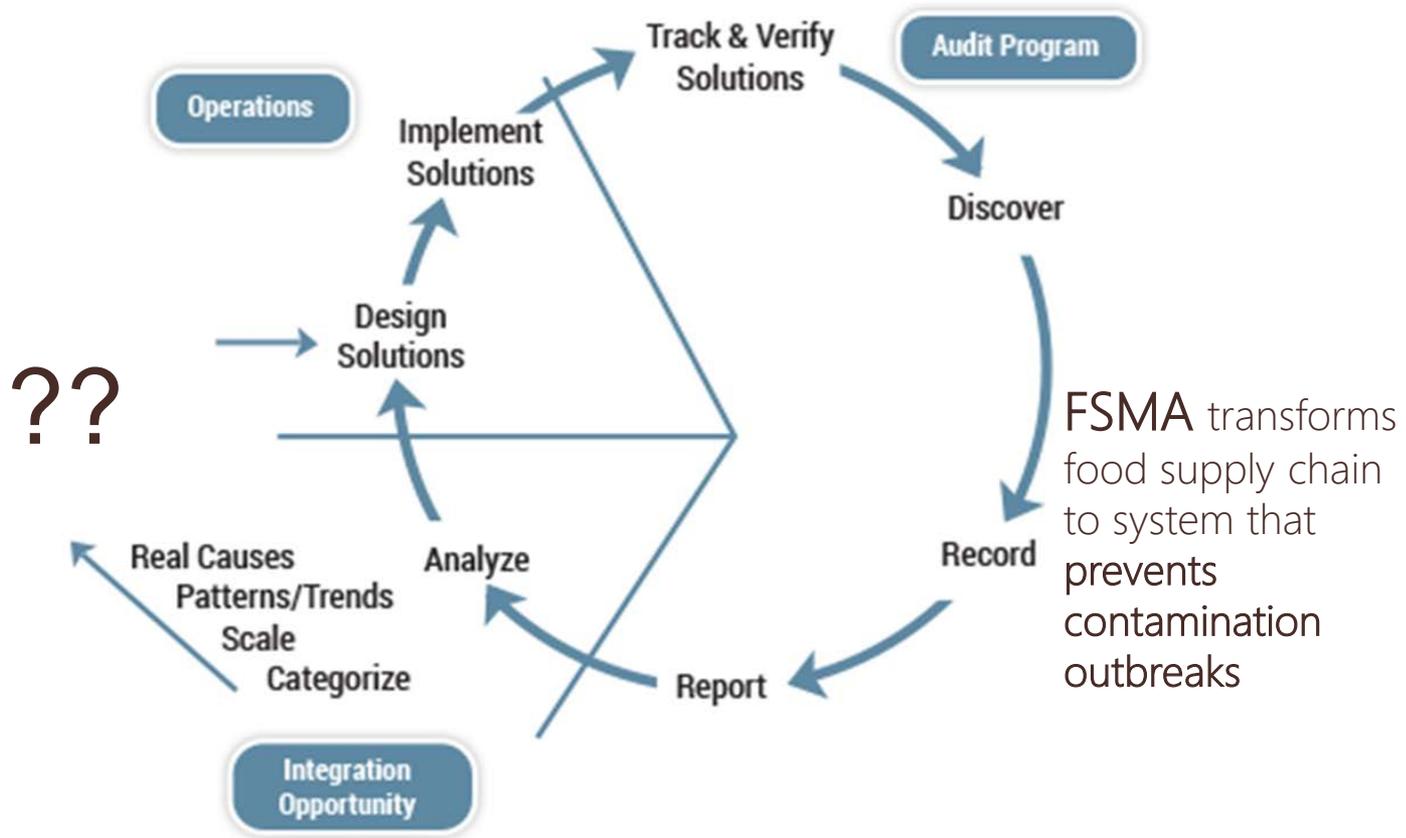


ORGANIC CONTINUES TO GROW

- Sales from U.S. organic farms skyrocketed in 2014 with consumer spending on organic products up 72% since 2008.*
- Many “Big Food” brands are introducing “natural” or organic products to reestablish an identity that consumers can trust.



A NEW ERA FOR FOOD SAFETY



WHAT DOES IT ALL MEAN FOR PROCESSORS?



- Proactive treatment mandatory.
- Expansion of chemical processing capacity unlikely.
- Sensory attributes post-treatment must be comparable to raw form.



CONCLUSION

***The “Status Quo” Will Simply Not Work
-The Regulatory Environment, The
Customer Base and The Consumer Are
Demanding A New Strategy.***

PROACTIVE TREATMENT MANDATORY



- FSMA mandates that processors “Establish and implement food safety systems that analyze hazards and risk-based preventive controls.”
- In 2007, the California Almond Industry took pre-emptive action and made treatment mandatory.
- The major questions:
 - Should industries impose comprehensive standards?
 - What should those standards be?

Hazelnut recall hurts Oregon growers at crucial holidays



By Lynne Terry | The Oregonian/OregonLive
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on December 22, 2009 at 11:21 AM, updated May 23, 2013 at 12:24 PM



Doug Beghtel, The Oregonian/Hazelnuts, an iconic crop in

Oregon, have never sparked reports of illness, according to the state Department of Agriculture. But the discovery of salmonella at one processing plant has sparked the recall of more than 114,000 pounds of shelled nuts and could cost producers hundreds of thousands of dollars if adopt new safety measures, such as pasteurization.

These are not festive days for several producers of hazelnuts, Oregon's state nut and one of its top crops.

The Food and Drug Administration found salmonella in a processing plant in Newberg, triggering a recall of more than 114,000 pounds of shelled hazelnuts. That recall has hit several Oregon companies at a crucial time of year, and could spur major processing changes in the hazelnut industry in Oregon, which produces virtually all of the hazelnuts in the U.S.

SPONSORED CONTENT

The Delights of the Southern Coast



Activities for families and outdoor enthusiasts abound.

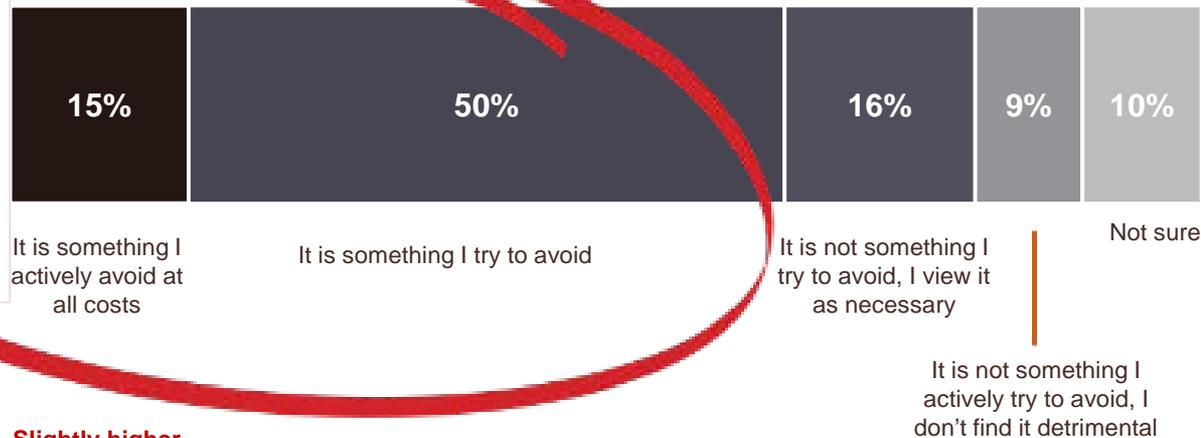
- Whale Watching
- Storm Watching
- Shore Acres Holiday Lights

OUR OWN RESEARCH CONFIRMS THAT CONSUMERS AVOID CHEMICALS



Two-thirds of consumers indicate that they try to avoid food products that are processed with chemicals

Outlook on Food Processing
Among Total



Slightly higher among parents (19%)

Q4. And which of the following best describes your outlook on food processing that involves chemicals?

CONSUMERS ARE INCREASINGLY AWARE AND VOCAL



- 86% of US consumers are concerned about food recalls due to health or safety reasons.
- Over half of US consumers say that food processors are the most responsible party for this problem.
- “Chemicals in Food” is the Top Food Safety Concern.

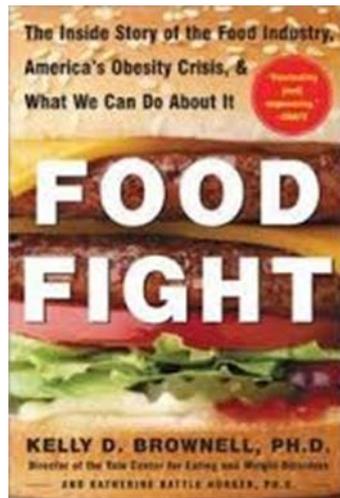


CONSUMERS ARE DEMANDING RAW, NATURAL FOODS



“The trend toward raw foods is being driven by a growing group of consumers looking for ‘clean food’ – not just those who consider themselves raw foodists,” says Teresa Havrlandova, founder of raw food firm Lifefood.

<http://www.foodnavigator.com/Trends/Organics/Raw-food-on-the-rise>



How have recent market trends affected forecasting your business?

- Long lead time raw materials and cost of commodities are becoming harder to predict
- Food & product safety concerns are changing consumer and customer behavior
- “Recession-proof” industries no longer seem so recession proof
- Fuel costs – are they artificially low and will they drive more domestic collaboration?
- What have we learned – what about risks like a terrorist attack, Icelandic volcanoes, US inflation, etc.

COUNTERTHINK - "THE PLAN FOR THE GLOBAL FOOD SUPPLY"



MAJOR FOOD BRANDS ARE RESPONDING TO THESE CHANGES



Many “Big Food” companies and brands are introducing fresh and organic product alternatives to reestablish an identity that consumers can trust:

- Spam maker Hormel Foods announced plans to buy organic meat processor Applegate Farms for \$775 million.
- Chipotle became the first major restaurant chain to prepare food without genetically engineered ingredients.
- Whole Foods Market’s food quality standards prohibit hydrogenated fats and artificial colors, flavors, sweeteners or preservatives

If the “status quo” doesn’t work anymore, what does?

PARTNERSHIPS & TECHNOLOGY



“Hope for food safety in the future will likely come in the form of specialized food safety technologies and developments that implement modern tools for identifying and treating pathogens before they lead to food contamination.”

Food Dive (July 7, 2015).



WHAT ARE THE CHARACTERISTICS OF A SUCCESSFUL SOLUTION?



Effective

- Chemical free, organic.
- No negative change in flavor, smell, color, or texture.
- Validated results.



WHAT ARE THE CHARACTERISTICS OF A SUCCESSFUL SOLUTION?



Scaleable

- Meet/match capacity requirements.
- Spans wide variety of products.
- Continuous and easy to operate.

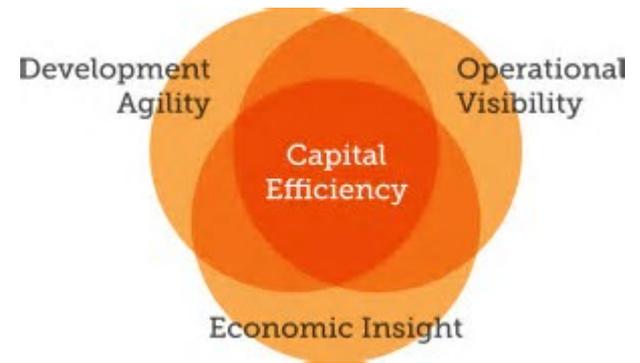


WHAT ARE THE CHARACTERISTICS OF A SUCCESSFUL SOLUTION?



Capital Efficient

- Customized risk assessment and process development.
- Flexibility to meet changing requirement.
- Provides synergies.



WHAT ARE THE CHARACTERISTICS OF A SUCCESSFUL SOLUTION?



Comprehensive

- Access to full gamut of required resources.
- Partnership/ collaboration that extends beyond scope of machine.



What are some other considerations ?

SUFFICIENT FUNDING IS A MAJOR HURDLE TO FSMA IMPLEMENTATION



- Congress has doled out less than half the amount required for FSMA to be effective.
- Both houses rejected agency's requests for user fees for food facility registration and inspection.
- The concept of a single food agency was part of the Obama Administration's vision for FSMA.



DEVELOPMENTS IN REPORTING



- Reportable Food Registry
- FoodNet
- State and Local Health Departments
- Social Media



FoodNet picks up “lost” and “hidden” cases of foodborne illness.



ORGANIC FOOD IS NOT SAFER THAN CONVENTIONAL FOOD



Seven percent of all the foods recalled this year were organic, according to Stericycle, a company that handles recalls for businesses, up from just two percent last year. According to the company, 87 percent of those recalls were driven by the presence of bacterial contamination instead of a labeling problem.



FOODSERVICE WORKERS AND SICK LEAVE



According to a 2015 article in the *International Business Times*, more than half of foodservice workers “always” or “frequently” go to work when sick.

- 47% of those who go into work say it is because they cannot afford to lose pay.
- Foodservice is among the lowest paid occupations in the nation and sick leave is relatively rare in the industry.
- Restaurant workers have triggered a number of recent high-profile outbreaks of foodborne illness.

AMERICANS WANT FOOD PRODUCERS TO PRIORITIZE FOOD SAFETY



“Although Americans find GMOs, antibiotics, sustainability and transparency important, they are most concerned with food safety, nutrition and affordability.”

“*Hungry for Information: Polling Americans on Their Trust in the Food System.*” – October 2015 report by The Chicago Council on Global Affairs.



CRIMINAL PROSECUTIONS FOR FOOD SAFETY BREACHES



- FSMA gives the FDA more power to seek criminal prosecution.
- Examples.
- Intent is a critical factor.

News

Justice Department promises criminal charges for food safety violators

By **Coral Beach** July 16, 2015 | 11:35 am EDT

COMMENTS 1    



A top Justice Department official says the government will continue to file criminal charges against owners and executives of companies whose food is linked to illness outbreaks, regardless of intent.

Acting Associate Attorney General Stuart Delery, who is third in the chain of command at the Justice Department, said the government and industry share a common interest in promoting consumer confidence about food safety when he

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DIFFERENT APPROACHES TO FOOD SAFETY PROBLEMS



- Blue Bell.
- General Mills.
- Jensen Farms.
- Peanut Corporation of America.



WALMART'S APPROACH IS PRESCRIPTIVE



- Expertise.
- Awareness.
- Simplification.
- Data Collection.

“We’re in this race – and when I say ‘we’, I mean everyone in the food industry- between public health’s ability to detect and industry’s ability to prevent. The detection has gotten so good...but detection is outpacing prevention. As an industry, we need to accelerate prevention.” – Frank Yiannis, Global Vice President of Food Safety, Walmart.

THANK YOU.



RFBiocidics™

Next Generation Food Safety Solutions

AN ALLIED MINDS COMPANY

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