Welcome!

Check your audio connection to be sure your speakers are on and the volume is up.

An On-Demand recording of this webinar will be available at:

http://schoolnutrition.org/on-demand

1 SNA CEU will be available upon completion of a quiz.
The quiz link will be emailed to you within 1 hour after the webinar concludes.

facebook.com/SchoolNutritionAssociation

@SchoolLunch
PROCESSED, Clean, and Natural...OH MY: From Science to the Land of Oz

David Grotto, MS, RDN, LDN
Senior Nutrition Manager
Today’s Moderator

Nathan Williams
Program Manager, Professional Development
School Nutrition Association
The Best of #SNIC17 webinar series made possible by the generous support of:

• Webinar Series
• Webinar 2 out of 4

Kellogg's®
Questions & Answers

• 75 minutes
• Q&A at the conclusion
• Type your questions into the “Question” box at any time during the webinar
• Questions will be addressed during the webinar and at the end as time allows
Earning CEUs

- Complete Evaluation and Quiz
- Print CEU at the end of the quiz.
- The link is provided at the end of this webinar and emailed to you.
SNA CEUs & Professional Standards

Key Area 2 (2000) Operations

Key Topic (2100) Food Production

Subtopic (2150) Understanding Clean Label
LEARNING OBJECTIVES

At the conclusion of today’s webinar, participants should be able to:

1. Understand how trends and influencers are driving the landscape for clean label foods.
2. Demystify “Processed”, “Clean” and “Natural” claims.
3. Examine what science has to say about the health, nutrition and ingredient attributes of processed foods.
4. Understand how the industry is responding to requests for clean label.
Today’s Speaker

David Grotto, MS, RDN, LDN
Senior Nutrition Business Partner
Kellogg’s Specialty Channels
Affiliation or Financial Disclosures

- David Grotto, MS, RDN, LDN
- Employee: Kellogg’s Specialty Channels
PROCESSED, Clean, and Natural...OH MY: From Science to the Land of Oz
Poll Question

• Do you know the definition of “Processed” vs. “Natural”?  
  – A. Yes  
  – B. No
The History of Processed Foods
Early Man ate “Unprocessed”, “Clean” and “Natural” Food...
...that he would have to catch...
...and have to...you know...
...and have to...you know...
...and it was totally clean, natural, raw and only slightly unprocessed until...
...he discovered fire and someone “processed” his food further and showed him the light...
...and he was happy and imagined all sorts of wonderful possibilities but...
... he began to wonder how “processed” his food really should be...
That are good for my heart
That are locally grown or produced
That are minimally processed
That contain only ingredients I recognize
With added vitamins and minerals
That help lower my cholesterol
With the shortest list of ingredients
Endorsed by health organizations I recognize
That are labeled "organic"

Source: Hartman Group "Health & Wellness 2015"
What Consumers Want

Consumers are also trying to limit or avoid more components in 2016, such as added sugars, high fructose corn syrup, and preservatives.

To what extent do you try to consume or avoid the following?

- **Packaged foods**: 35% try to limit or avoid, 4% try to consume.
- **Sodium/salt**: 53%, 4%.
- **Monk fruit**: 18%, 4%.
- **Sucralose**: 42%, 2%.
- **Aspartame**: 43%, 2%.
- **Sucrose**: 28%, 2%.
- **Acesulfame potassium**: 43%, 2%.
- **Fructose**: 45%, 2%.
- **Artificial flavors**: 50%, 1%.
- **Preservatives**: 32%, 1%.
- **Artificial colors**: 43%, 1%.
- **High fructose corn syrup**: 53%, 1%.
- **GMOs**: 42%, 1%.
- **MSG**: 61%, 1%.

2016 n=1,003; Arrows indicate significant (.95 level) differences vs. 2015.
What’s Driving the Landscape?

The new and very much UN-improved ‘Health and Nutrition Hierarchy of Evidence’

- Wellness Blogger
- Celebrity
- Personal anecdote from your cousin’s, best mates, brother’s girlfriend
- Dr Google
- Info commercial
- Personal testimony of a stranger overheard on public transport
- ‘Health Professional’ newly graduated from a 12 week online course
- Highly educated individual with university degrees in something totally unrelated to health/nutrition (i.e. Law, Journalism, Aerodynamics)
- N=1 studies
All children deserve healthy school meals
For many, school meals are their only source of healthy food. Yet, our school food system is significantly under-resourced and far too dependent on highly processed, cheap food.

School Food Focus is committed to working towards positive, large scale change because we believe all children deserve better school food now. Also, locally procured foods such as produce and minimally processed grains are well suited to help schools meet the USDA meal pattern standards for fruits, vegetables and whole grains.

http://www.schoolfoodfocus.org/
Poll Question

• Does the FDA provide definitions for the terms “Processed”, “Clean”, and “Natural”?  
  – A. True
  – B. False
“The Food and Drug Administration (FDA) makes determinations regarding the safety of particular food additives and USDA defers to FDA on such determinations.”

“This final rule continues to provide the **flexibility to implement additional standards** at the State and/or local level.”
Challenges in the Marketplace

Becoming increasingly difficult for operators to meet consumer/operator needs beyond requirements.

EXTERNAL

- Fickle generational influences
- Increasing outside meal options decreasing participation and revenue
- Limited budgets and resources

Consumer focus on:
- ‘natural’ ingredients and clean labels
- negative reaction to special formulations for commercial foodservice
- desire for ‘specialty’ foods like gluten free
- local/sustainable?
What is **PROCESSED**?
What Does Science Say?

John Floros on Processed Food
John Floros, Ph.D., Dean, College of Agriculture, Kansas State University, discusses processed food.

**More Definitions...**

**Type 1:** ‘Unprocessed or minimally processed foods’ that do not change the nutritional properties of the food.

**Type 2:** ‘Processed culinary or food industry ingredients’ such as oils, fats, sugar and sweeteners, flours, starches, and salt. These are depleted of nutrients and provide little beyond calories (except for salt, which has no calories).

**Type 3:** ‘Processed foods’ that are manufactured with the addition of salt or sugar or other substances of culinary use to unprocessed or minimally processed foods, such as canned food and simple breads and cheese.

**Type 4:** ‘Ultra-processed foods’ that combine Type 2 ingredients (and, rarely, traces of Type 1).


“**Ultra-processed foods** were defined as industrial formulations which, besides salt, sugar, oils and fats, include substances not used in culinary preparations, in particular additives used to imitate sensorial qualities of minimally processed foods and their culinary preparations”


https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4785287/
Packaged Foods & Nutrition

What are Packaged Foods?

Packaged foods, also referred to as processed foods, are those which were at one time raw, but then were refined in a processing facility to enhance nutrients and freshness, to improve safety and taste, or to help consumers save time during preparation. Examples include frozen fruits and vegetables, yogurt, canned beans, granola bars, cereal, and frozen meals.
How do consumers feel about packaged foods?

Processed = Packaged?

85%* of Americans agree that some packaged foods can provide affordable, nutritious options.

77%* of Americans agree that packaged foods can contain nutrients needed for good health.

* 2014 IFIC Foundation Food & Health Survey
Demystifying Processed

FROM GRAIN TO CEREAL

Harvested → Cooked → Puffed, Flaked or Shredded → Packaged & Shipped

Planning starts ≥ 2 years prior to launch
Do “Processed” Foods Contribute to the American Diet?

Yes!
Fact: Most of the vitamin D in our diets come from “processed”, fortified foods!¹

“Advanced processing methods allow for fresher tasting food with higher nutritional value and extended shelf-life. It is imperative to provide Warfighters with highly acceptable products to increase consumption resulting in optimized effectiveness.”

What is “Clean”? 
Healthcare Professionals differ on the definition of “clean eating”:

“A clean eater is someone whose diet consists of 80 to 90 percent whole foods, 80 to 90 percent cooking and preparing their foods from scratch, using minimally-processed foods and including superfoods in their diets.” – Manuel Villacorte, MS, RD, author of “Whole Body Reboot: The Peruvian Superfoods Diet”

“Clean eating = eating foods where nothing healthful has been taken away, and nothing harmful has been added.” – Dawn Jackson Blatner, RDN, author of "The Superfood Swap"

“Clean eating is focused on reading labels to make sure there are fewer ingredients; but the best clean foods come with only one ingredient – and many have no labels: leafy green vegetables, berries, citrus fruit, tomatoes, nuts, seeds, wheat berries, oats, lentils, chickpeas and more.” – Sharon Palmer, RDN, author of Plant-Powered for Life
Eating Clean And Eating Green

• **Clean can mean**
  – Absence of (artificial, sweeteners, gluten, soy, biotech/GMOs, etc.)
  – Minimally processed
  – Short ingredient statements
  – Whole ingredients

• **Green can mean**
  – Organically grown
  – Plant-based
  – Locally grown
  – Farming practices (Fair Trade)
Clean and “Real”

What is **Natural**?
No Formal Definition

• FDA has not developed a formal definition for use of the term “natural”.

• The agency has not objected to the use of the term if the food does not contain added color, artificial flavors, or synthetic substances.

http://www.fda.gov/AboutFDA/Transparency/Basics/ucm214868.htm
Is Natural the Same as Organic?

- Organic legally defined by USDA
- Both natural and organic do not guarantee the consumer that the food is more nutritious or lower in negative nutrients

<table>
<thead>
<tr>
<th>USDA Organic vs. Natural</th>
<th>Organic</th>
<th>Natural</th>
</tr>
</thead>
<tbody>
<tr>
<td>Toxic persistent pesticides</td>
<td>Not allowed</td>
<td>Allowed</td>
</tr>
<tr>
<td>GMOs</td>
<td>Not allowed</td>
<td>Allowed</td>
</tr>
<tr>
<td>Antibiotics</td>
<td>Not allowed</td>
<td>Allowed</td>
</tr>
<tr>
<td>Growth hormones</td>
<td>Not allowed</td>
<td>Allowed</td>
</tr>
<tr>
<td>Sludge &amp; irradiation</td>
<td>Not allowed</td>
<td>Allowed</td>
</tr>
<tr>
<td>Animal welfare requirements</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Cows required to be on pasture for pasture season</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Lower levels of environmental pollution</td>
<td>Yes</td>
<td>Not Necessarily</td>
</tr>
<tr>
<td>Audit trail from farm to table</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Certification required, including inspections</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Legal restrictions on allowable materials</td>
<td>Yes</td>
<td>No</td>
</tr>
</tbody>
</table>

FDA – Food Marketing Institute
False Assumptions?

“Since natural and un-processed foods provide kids with a lower intake of glucose, kids are leaving the lunchrooms now feeling more energized, less lethargic, and more able to focus.”

Public School Review, September, 2016

“Natural” and “unprocessed” foods are not always lower in sugar!

= 21-25g sugar per 1/4c fruit serving

= 4g sugar/ 1 grain oz equiv

https://www.publicschoolreview.com/blog/how-diet-and-nutrition-impact-a-childs-learning-ability
Consumers say reducing sugar is one of their top actions to improve health, as sugar has replaced fat as the primary dietary "villain".

<table>
<thead>
<tr>
<th>Action</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eat more fruits &amp; veg</td>
<td>83%</td>
</tr>
<tr>
<td>Cut calories w/ low/no cal bev</td>
<td>79%</td>
</tr>
<tr>
<td>Eat more whole grains</td>
<td>72%</td>
</tr>
<tr>
<td>Cut back on foods higher in added sugars</td>
<td>70%</td>
</tr>
<tr>
<td>Cut back on foods higher in salt</td>
<td>67%</td>
</tr>
</tbody>
</table>

Source: IFIC 2014 Food & Health Survey
What is Sugar?

Caloric Sweeteners include, but are not limited to:

- Sugar
- Ingredients with the word “syrup”
- Ingredient names that end in “-ose” such as maltose, sucrose, fructose, glucose, etc., with exception of sucralose
- Honey, Molasses, Agave, Sugarcane Juice, Barley Malt
- Fruit juices and fruit purees

Low/Non-Caloric Sweeteners include, but are not limited to:

- Aspartame, Saccharin, Sucralose, Malitol, Xylitol, Erythritol, Stevia, Monk Fruit

Why Do Some Consumers Want Less Sugar?

- People are hearing or reading about added sugar intake being connected with obesity and other diseases.
- Health organizations and healthcare professionals recommend limiting amounts of added sugar.
- Calories and total sugar are the top items consumers check on the “nutrition facts” label.

NPD: Bites of Insights – Nutrition Facts Panel; Sugar Vol. 51
https://kelloggs.marketlogicsoftware.com/mls-web/start#nsearch-c100000000225000-t100000002518500-ftrue
What is the Difference Between Sugar and Added Sugar?

**Naturally occurring sugar:** found in foods like milk, yogurt, fruit

**Added sugar:** sugars such as granulated sugar, brown sugar, high fructose corn syrup, honey, molasses that are added to foods

- Some foods and beverages with added sugar provide calories, but no nutrients
- Eating a lot of these foods can make it hard to get the nutrients we need in the calories we need
- Excludes fruit or vegetable juice from 100% fruit juice that is sold to consumers and some sugars found in jellies, jams and preserves

http://www.fda.gov/Food/GuidanceRegulation/GuidanceDocumentsRegulatoryInformation/LabelingNutrition/ucm385663.htm
Sugar Labeling

- FDA has updated nutritional information requirements for most packaged foods sold in the U.S.
- Changes to nutritional panels go into effect over the next 2 years
- New Nutrition Facts label intended to help consumers balance nutrient needs with calorie concerns related to added sugars

http://www.fda.gov/Food/GuidanceRegulation/GuidanceDocumentsRegulatoryInformation/LabelingNutrition/ucm385663.htm
(Brouns WFI 2016)
Why is Sugar in Foods?

#1 – Tastes good

#2 – Looks good

#3 – Improves texture

#4 – Fire resistant
Why is Sugar in Cereal?

- The sugar in cereal contributes to its texture, color, appearance and taste.
- Small amounts of added sugar in nutrient dense foods, such as cereals, can improve the taste, which makes it something people want to eat.
- Kellogg has committed to continuing our journey to reduce sugar in our cereals by 2020.
- Cereal provides approximately 4% of added sugar intake in the diet of the U.S. population.

Source: 2010 Dietary Guidelines for Americans
How Much is Too Much?

- Health experts agree that there is room for foods with added sugar in our daily diets.
- The World Health Organization and the U.S. Dietary Guidelines recommend less than 10% of calories should come from added sugar.
- Many sugar-sweetened foods supply important nutrients such as fiber, vitamins and minerals. Ready-to-eat cereal is a great example of this.

https://www.cdc.gov/nutrition/data-statistics/know-your-limit-for-added-sugars.html
Dietary sugars and body weight: systematic review and meta-analyses of randomised controlled trials and cohort studies

Lisa Te Morenga research fellow\textsuperscript{1,2}, Simonette Mallard research assistant\textsuperscript{1}, Jim Mann professor\textsuperscript{1,2,3}

\textsuperscript{1}Departments of Human Nutrition and Medicine, University of Otago, PO Box 56, Dunedin 9054, New Zealand; \textsuperscript{2}Riddet Institute, University of Otago; \textsuperscript{3}Edgar National Centre for Diabetes and Obesity Research, University of Otago
Poll Question

• What function does sugar have in many of the foods we eat?
  – A. Improves taste.
  – B. Improves appearance
  – C. Improves texture
  – D. Improves fire resistance
  – E. A,B and C
• “Owing to the multifactorial causes of obesity, the effect of reducing sugar intake alone is small.”
• “The extent to which population based advice to reduce sugars might reduce risk of obesity cannot be extrapolated from the present findings, because few data from the studies lasted longer than ten weeks.”
• “However, when considering the rapid weight gain that occurs after an increased intake of sugars, it seems reasonable to conclude that advice relating to sugars intake is a relevant component of a strategy to reduce the high risk of overweight and obesity in most countries.”
RTEC v. Other Breakfast Items?

The combination of cereal and milk is a leading source of 10 important vitamins and minerals in kids’ diets\(^1\)

Industry Response?

Percent of cereals with 10g or less of sugar per 30g serving

- 2007 / 77%
- 2014 / 84%
- 2020 goal / 90%
What is Sodium?

The terms *sodium* and *salt* are often used interchangeably. Sodium is a mineral and one of the chemical elements found in salt (sodium chloride). Salt is a crystal-like compound that is abundant in nature and is used to flavor and preserve food\(^1\). Most sodium is not inherent to food, but added during processing. 75% of sodium comes from processed and commercially prepared foods\(^1\).

Source: https://www.fda.gov/Food/ResourcesForYou/Consumers/ucm315393.htm
What Are Consumers Saying?

• More than half (57%) of consumers rank sodium-free as one of the top five claims they seek when buying food\(^1\)
• Half of Millennials (51%) and two thirds of those aged 55+ (65%) indicate sodium-free is one of the top five claims they want\(^1\)
• As people age, they tend to avoid sodium more and look for low sodium claims on pack\(^2,3\)
• However, even Millennials make a connection between higher sodium foods and diets and an unhealthy lifestyle\(^2\)
• Consumers with a higher level of engagement in health & wellness associate higher sodium foods with “more processed” foods\(^2\)

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1. MINTEL (Better For You Eating Trends: Spotlight on Real; September 2016)
3. IFIC Food & Health Survey, 2016
What Does the Science Say?

- Dietary Guidelines Committee, AHA, IOM all say there is moderate to strong evidence supporting a link between:
  - Dietary patterns and CVD: A low sodium dietary pattern reduces risk of CVD
  - Sodium and CVD: Consistent evidence that excess sodium intake associated with increased risk of CVD
  - Sodium and BP: Reducing sodium intake leads to reduction in blood pressure

- FDA estimates a reduction of sodium intake could lead to a reduction of 280,000 deaths due to heart disease and 500,000 deaths due to stroke over 10 years, resulting in a healthcare savings.
Gov & Health Org Recommendations

- FDA – Voluntary targets for the food industry to help Americans get to a daily sodium consumption of 3000 mg/d in 2 years and 2300 mg/day in 10 years
- DGA - <2300 mg/d of sodium; help reduce sodium intake by consuming an eating pattern that limits high sodium foods
- AHA – For optimal health, no more than 1500 mg/d. Associated with significant blood pressure reduction for reduced risk of heart disease and stroke.
- WHO - General intake guidelines <2000mg/d
- USDA – K-12 Sodium targets have been established to reach a goal of 2300mg by SY 2022-2023¹.

SFO’s have option to stay at Target 1 for 2017-2018 SY

Final Rule “Nutrition Standards in the National School Lunch and School Breakfast Programs (1/26/12)

<table>
<thead>
<tr>
<th>Age/Grade Group</th>
<th>Sodium Reduction: Timeline &amp; Amount</th>
<th>School Breakfast Program</th>
<th>National School Lunch Program</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Baseline: Average Current Sodium Levels As Offered(^1) (mg)</td>
<td>Target 1: July 1, 2014 SY 2014-2015 (mg)</td>
<td>Target 2: July 1, 2017 SY 2017-2018 (mg)</td>
</tr>
<tr>
<td>K-5  (elementary)</td>
<td>573</td>
<td>≤ 540</td>
<td>≤ 485</td>
</tr>
<tr>
<td>6-8  (middle)</td>
<td>629</td>
<td>≤ 600</td>
<td>≤ 535</td>
</tr>
<tr>
<td>9-12 (high)</td>
<td>686</td>
<td>≤ 640</td>
<td>≤ 570</td>
</tr>
<tr>
<td>K-5  (elementary)</td>
<td>1,377</td>
<td>≤ 1,230</td>
<td>≤ 935</td>
</tr>
<tr>
<td>6-8  (middle)</td>
<td>1,520</td>
<td>≤ 1,360</td>
<td>≤ 1,035</td>
</tr>
<tr>
<td>9-12 (high)</td>
<td>1,588</td>
<td>≤ 1,420</td>
<td>≤ 1,080</td>
</tr>
</tbody>
</table>

\(^1\)SNDA-III

Industry Response

Percent of cereals with 150mg or less of sodium per 30g serving

- 2007 / 63%
- 2014 / 82%
- 2020 goal / 85%

Percent of sodium reduction in cereals (since 2007)

- 2007
  - Baseline year
- 2014: 29%
- 2020 goal: 30%
What is Gluten?

- Gluten is a naturally-occurring protein found in certain grains. It is responsible for giving bread dough its elasticity and providing structure in baked goods.

- Even grains that are inherently gluten-free may come in contact with other gluten containing ingredients during growing or processing.
Is Gluten Bad for You?

- Some people need to avoid gluten because of Celiac disease or gluten sensitivity.
- For most people, gluten-containing foods cause no negative effects.
- 22% of Americans say they follow a gluten-free diet.
- Many gluten-containing foods provide important nutrients, such as fiber, to the diet, which may be lacking when avoiding gluten.
- There is science supporting the benefits of whole grains for health\(^1\).

![](chart.png)

1. BMJ 2016;353:i2716

Source: Hartman & Mintel
What About Genetically Modified Organisms (GMO’s)?

- GMOs are found in a small number of mainstream ingredients, such as corn and soy, used in North America, as well as in a few other countries in Latin America and South East Asia.

- More than 2,000 studies show that GM crops are safe. The GM approach adds desirable traits from nature and, contrary to what some people think, it does not use chemicals.

- For the last 20 years, U.S. and international food safety authorities (including the World Health Organization, U.S. Department of Agriculture and American Medical Association) have studied these crops and found them to be safe.
We continue to actively monitor the science, regulations and our consumers’ preferences on this topic. To meet consumer demand, Kashi and MSF Brands offer several Non GMO Project Verified products.

What Are Artificial Colors & Flavors?

FDA defines a color additive as any dye, pigment, or substance which—when added or applied to a food, drug, or cosmetic, or to the human body—is capable (alone or through reactions with other substances) of imparting color.

Why is it in food?

• To offset color loss due to exposure to light, air, temperature extremes, moisture, and storage conditions
• To correct natural variations in color
• To enhance colors that occur naturally
• To provide color to colorless and "fun" foods.

http://www.fda.gov/ForIndustry/ColorAdditives/RegulatoryProcessHistoricalPerspectives/
Are They Safe?

• In 2008, the Center for Science in the Public Interest (CSPI) in Washington, DC, petitioned the FDA to ban artificial food dyes because of their connection to behavioral problems in children.

  – The science is very limited and weak that dyes cause behavioral problems

• We have used artificial ingredients to meet consumer demand for taste and appearance. We only use artificial colors and flavors that are considered safe.

• Given a shift in consumer desires, we are working to remove all artificial colors and flavors across Kellogg’s branded cereals, a variety of our snack bars and Eggo frozen foods by end of 2018
“35% of U.S. adults believe that preservatives and/or chemicals are the most harmful to their nutritional health, over sugar, saturated fats, sodium, carbs, and GMOs.”

Science to support??
Food can be preserved in many ways:

- Smoking
- Curing
- Chemical Preservation
- Salting

http://www.fda.gov/Food/IngredientsPackagingLabeling/FoodAdditivesIngredients/ucm094211.htm#foodadd
Preservatives

- Slows product spoilage caused by mold, air, bacteria, fungi or yeast.
  - One group of preservatives -- antioxidants -- prevents fats and oils and the foods containing them from becoming rancid or developing an off-flavor.
- Helps control contamination that can cause foodborne illness, including life-threatening botulism.
  - They also prevent cut fresh fruits such as apples from turning brown when exposed to air.

Preservatives Maintain and Improve Foods:
QUALITY, SAFETY & FRESHNESS

http://www.fda.gov/Food/IngredientsPackagingLabeling/FoodAdditivesIngredients/ucm094211.htm#foodadd
# Why Fortification?

<table>
<thead>
<tr>
<th>Under-consumed Nutrients*</th>
<th>Nutrients of Public Health Concern*</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Calcium</td>
<td>- Calcium</td>
</tr>
<tr>
<td>- Choline</td>
<td>- Dietary fiber</td>
</tr>
<tr>
<td>- Dietary fiber</td>
<td>- Potassium</td>
</tr>
<tr>
<td>- Magnesium</td>
<td>- Vitamin D</td>
</tr>
<tr>
<td>- Potassium</td>
<td>- Iron (young children, women capable of becoming pregnant, &amp; women who are pregnant)</td>
</tr>
<tr>
<td>- Vitamin A</td>
<td>- Vitamin E</td>
</tr>
<tr>
<td>- Vitamin D</td>
<td>- Vitamin C</td>
</tr>
<tr>
<td>- Vitamin E</td>
<td>- Iron (adolescent girls and women 19-50 yrs)</td>
</tr>
<tr>
<td>- Vitamin C</td>
<td></td>
</tr>
</tbody>
</table>

*2015-2020 Dietary Guidelines
However, External Pressures on Over-Fortification include:

- Preference for natural or fresh foods\(^3\)
- Fear of potential side effects of “unnatural” foods\(^1,2,3\)
- “Over Fortification” Critics – EWG Report
- Lack of knowledge\(^1\)

Some major barriers include:
- Which foods to purchase and how much to consume (64%)
- Skepticism of food manufacturer’s motives for adding health components (34%)
- Confusion over conflicting information (27%)

---

\(^1\) Mintel – Vitamins, Minerals and Supplements – US, September 2014
\(^2\) 2013 IFIC Functional Foods Consumer Survey
\(^3\) Hartman, Consumer Interest in Fortification, 9/23/14.
Purposeful Fortification

• In the U.S., many kids fall short in getting enough calcium, vitamin D, potassium and fiber.

• Foods like fortified breakfast cereal with milk and cereal bars can help kids meet their needs for these nutrients.

• Example: Adding iron to Kellogg’s Rice Krispies to meet the needs of WIC participants
• In the US, Hass avocados are only available from imported sources during the winter.

• Foods/ingredients can be shipped from anywhere in 24 hours and maintain their nutrition value.

• At Kellogg, we aim to source most of our ingredients from the same regions where our foods are made and sold.

• For certain ingredients like cocoa and quinoa, we often have to travel further to the regions where the right weather and soil conditions are found.
Local Ingredients

Committed to Local, Sustainable, Responsible Sourcing

- Sugar Beets
- Corn
- Rice
- Almonds
- Raisins
- Oats
- Wheat

[Map of North America showing local ingredients from various regions]
Nutritional adequacy of meals served in schools is articulated in the HHFKA; however, requirements for processed, clean, or natural are not mentioned in these guidelines.

Does imposing requirements for processed, clean or natural food products create an undue burden when improved nutrition, health or school performance is not assured for the student by these additional measures?
For More Information

GMOs:
http://factsaboutgmos.org/
http://www.foodinsight.org/

Food additives:
http://www.fda.gov/Food/IngredientsPackagingLabeling/FoodAdditivesIngredients/default.htm
http://www.fda.gov/Food/IngredientsPackagingLabeling/GRAS/default.htm

Natural:
http://www.fda.gov/AboutFDA/Transparency/Basics/ucm214868.htm
In Summary

• “Processed” ,“clean” and even “natural” mean many things to many people.
• Need universal definitions.
• Need long term research.
• No assurance that nutrition, health or school regs are met or improved upon.
• Bottom line...YOU are feeding kids nutritious food!
PROCESS THAT!
Thank YOU!
Questions?
Upcoming Webinars

Up Next: Food Allergy: Discussing the Science Behind the Facts

March 15, 2017

The “Best of #SNIC17” 3 of 4: Innovative Menu Planning

April 19, 2017

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