

# Modern Food Science Meets Modern Storytelling

Rachel Cheatham, PhD  
Foodscape Group, LLC  
NCIFT Symposium  
May 2017



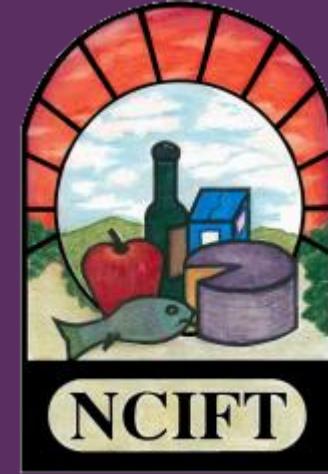
# TOPICS WE WILL COVER TODAY

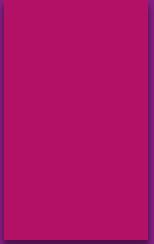
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- ▶ EVOLUTION OF 'BIG FOOD'
- ▶ NUTRITION LANDSCAPE
- ▶ CONSUMER SPACE
- ▶ SCIENCE IN THE HEADLINES
- ▶ ENTER MODERN STORYTELLING...
- ▶ RECAP

# MY VANTAGE POINT: Nutrition Science + Creative Media

- ▶ Head of Foodscape Group based in Chicago, Illinois, USA
- ▶ Consulting group which merges together the worlds of nutrition science and media/content marketing
- ▶ My background:
  - ▶ PhD in Nutritional Biochemistry from Tufts University, now Adjunct Professor
  - ▶ Former Public Relations Professional
  - ▶ Former Television Producer
- ▶ MISSION? Focused on creating a healthier food landscape based on 'world food' choice and variety.

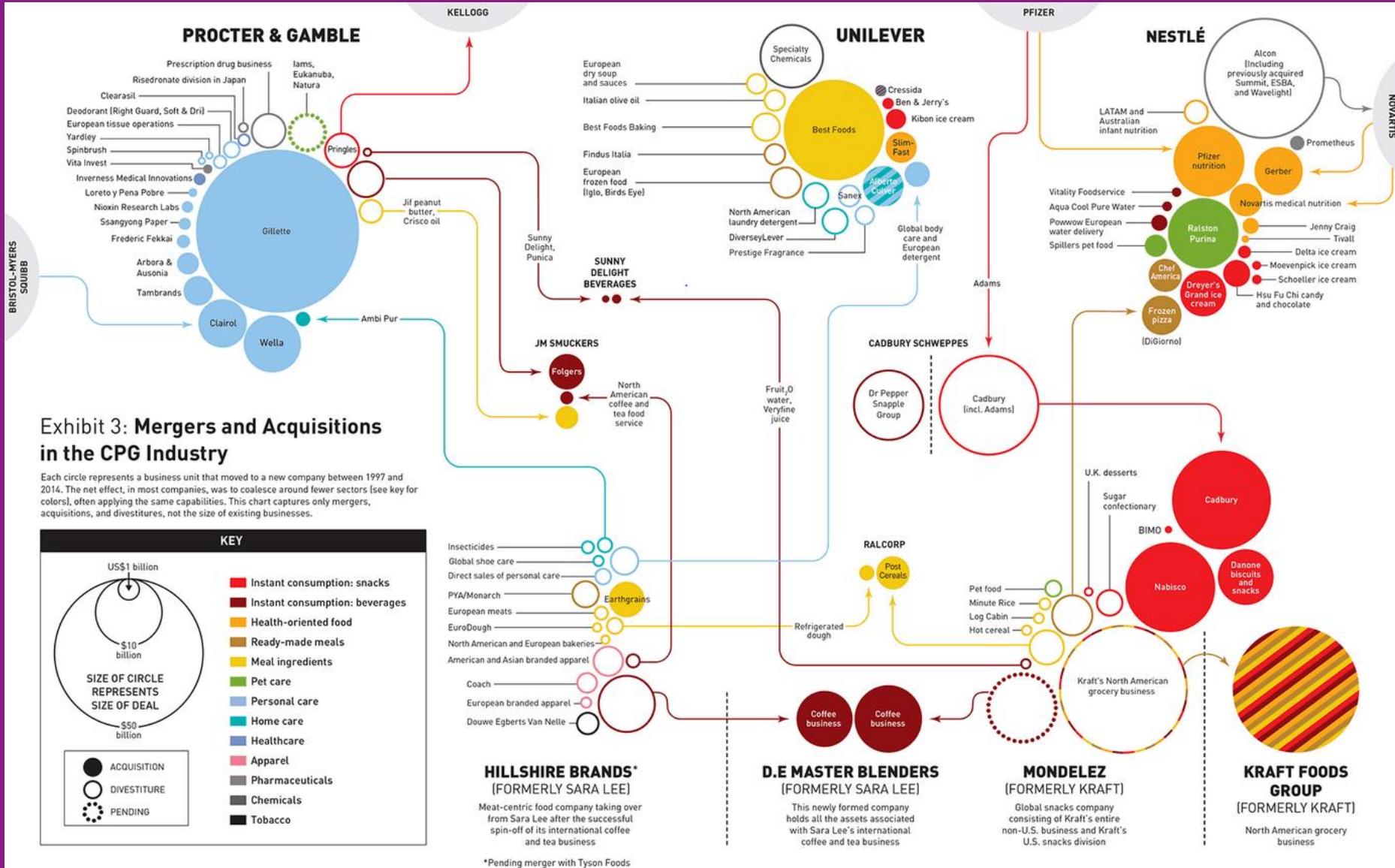




# EVOLUTION OF 'BIG FOOD'

# BIG FOOD M&A

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# ROUGHLY \$1.8 BILLION RAISED

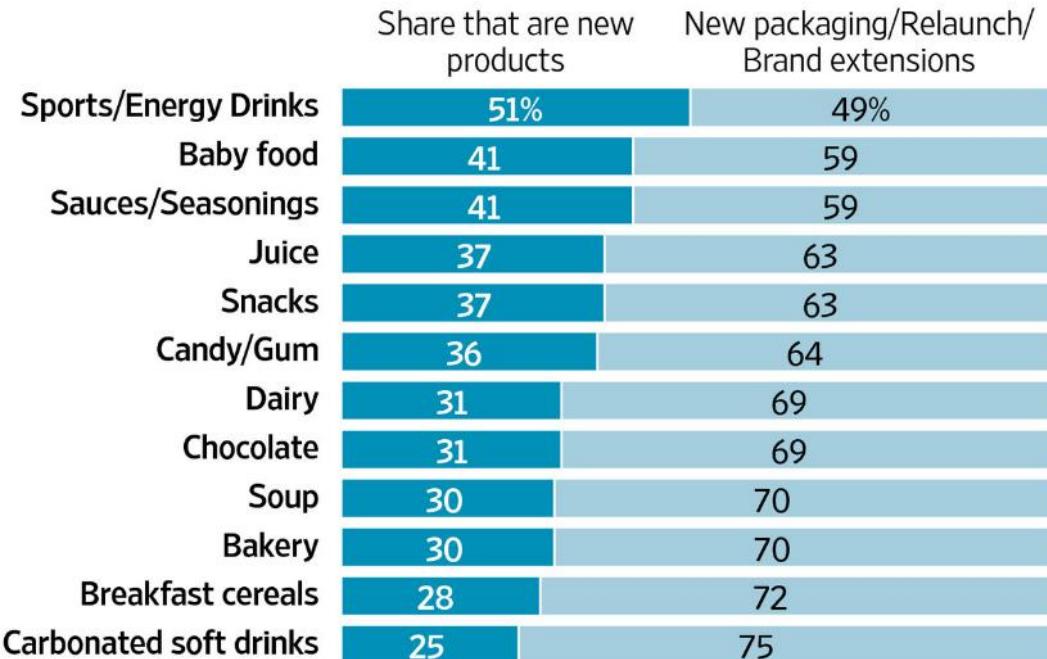
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# WHAT'S OLD IS NEW AGAIN

7

## Products launched between 2011-15

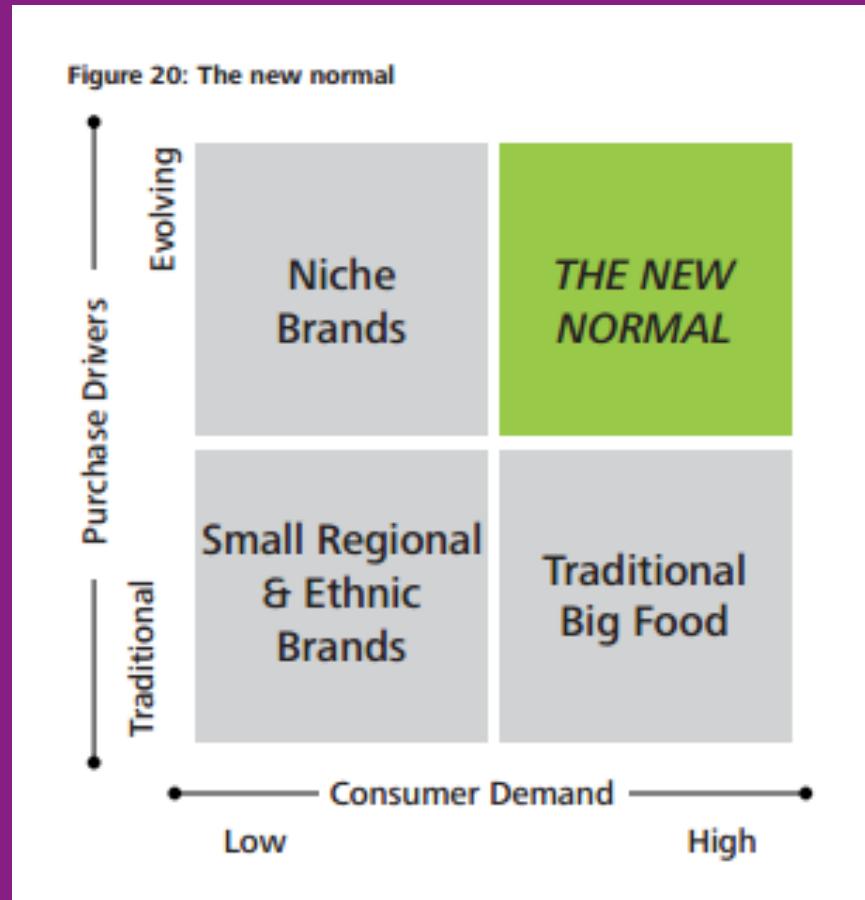


Source: CircleUp

THE WALL STREET JOURNAL.

- ▶ Majority of “new” products are result of one of three things:
  - ▶ New packaging
  - ▶ Relaunch
  - ▶ Brand Extensions
- ▶ Sports/Energy Drinks represent the one category where more than half (51%) of products are in fact “new” to the market
- ▶ CPG companies lost \$18 billion in market share to smaller competitors from 2011 – 2015
- ▶ VC funds made 66 food-and-beverage-related deals in 2016, up 20% from 2015
- ▶ About 20% were backed by ‘big food’ companies

# 'NEW NORMAL' EMERGES



- ▶ Consumer tastes and preferences will continue to fragment
- ▶ Niche retailers and more food startups create further fragmentation
- ▶ Online grocers and e-commerce growing, but also fragmented
- ▶ Larger competitors will adjust to fulfill new, unique sometimes niche value propositions
- ▶ Market success will be determined by building purpose-driven competitive advantages

# NUTRITION LANDSCAPE

# WORLD HEALTH ORGANIZATION: Nutrition Guidance

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## ► FAT

- Total fat should not exceed 30% of total energy intake to avoid unhealthy weight gain

## ► SUGAR

- Less than 10% of total energy intake from free sugars which is equivalent to 50 g (about 12 teaspoons)
- Ideally less than 5% of total energy intake for additional benefits

## ► SALT

- Keeping salt intake to less than 5g per day (2000 mg) helps prevent hypertension and reduces the risk of heart disease and stroke

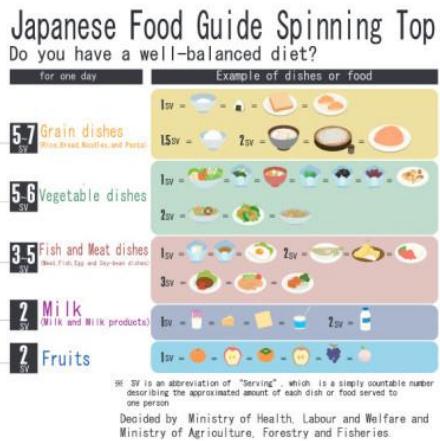
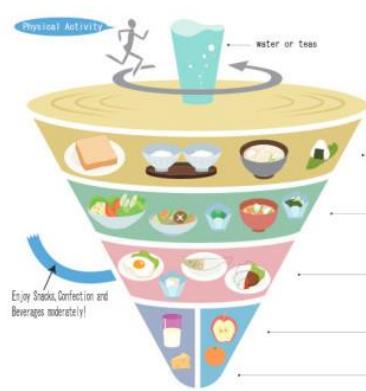


## ► FRUITS/VEGETABLES

- At least 400 g (5 portions) of fruits and vegetables a day
- Potatoes, sweet potatoes, cassava and other starchy roots are not classified as fruits or vegetables

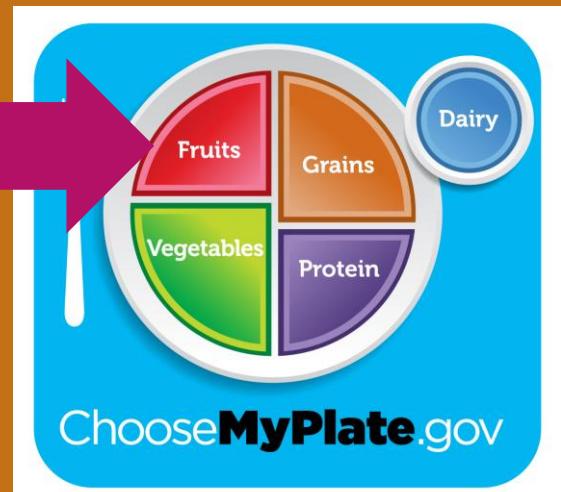
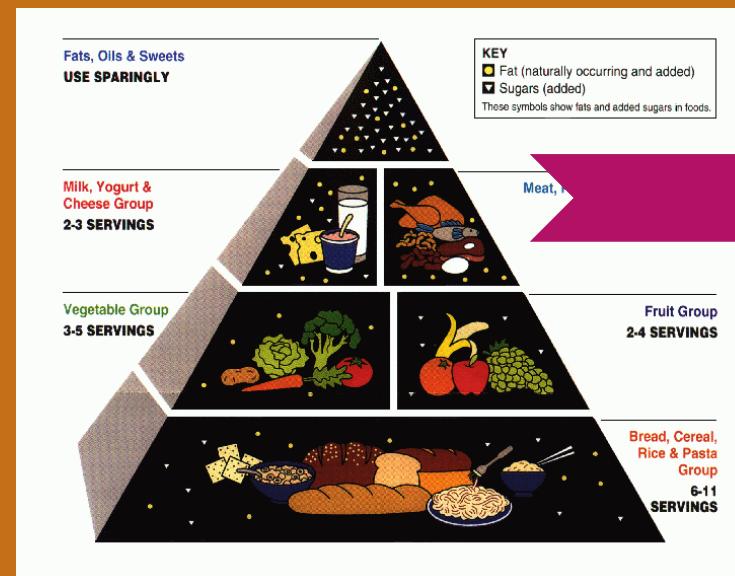
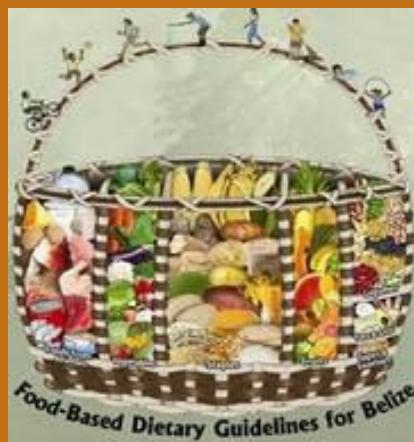
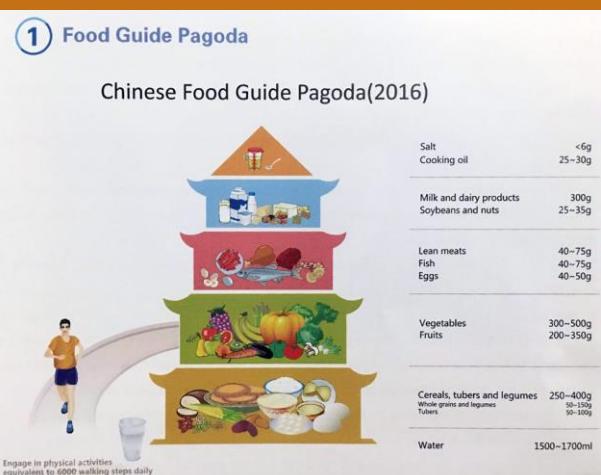


# GLOBAL FOOD GUIDES



## 1 Food Guide Pagoda

Chinese Food Guide Pagoda(2016)





# PLANT BASED IS A CONTINUUM: Think 'Flexitarian'

12

| Vegan   | Vegetarian  | Pescatarian   | Omnivore  |
|---|---|---|---|
| Avoid all animal products. Includes avoiding red meat, fish, poultry, milk, dairy, butter and eggs. For some, must avoid honey. | Avoid all red meat, fish and poultry, but include low/moderate amounts of milk, dairy, butter and eggs. | Avoid all red meat and poultry, but include low/moderate amounts of fish and seafood, milk, dairy, butter and eggs. | Limit red and processed meats, but include low/moderate amounts of chicken, fish, milk, dairy, butter and eggs. |

More fruits, vegetables, legumes, nuts, seeds and whole grains can provide foundation for any **PLANT BASED** dietary pattern.

# PLANT BASED EATING: A Systematic Review

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- ▶ “Consistent evidence indicates that, in general, a dietary pattern that is higher in plant-based foods, such as vegetables, fruits, whole grains, legumes, nuts, and seeds, and lower in animal-based foods is more health promoting and is associated with lesser environment impact than is the current average U.S. diet. A diet more environmentally sustainable than the average U.S. diet can be achieved without excluding any food groups.”
- ▶ Original quote from Dietary Guidelines Advisory Committee (DGAC) 2015
- ▶ Followed by subsequent review paper which strengthened original conclusions with an additional 8 studies

**REVIEW** 

## Alignment of Healthy Dietary Patterns and Environmental Sustainability: A Systematic Review<sup>1,2</sup>

Miriam E Nelson,<sup>3,4\*</sup> Michael W Hamm,<sup>5</sup> Frank B Hu,<sup>6</sup> Steven A Abrams,<sup>7</sup> and Timothy S Griffin<sup>4</sup>

<sup>3</sup>Sustainability Institute, University of New Hampshire, Durham, NH; <sup>4</sup>Friedman School of Nutrition Science and Policy, Tufts University, Boston, MA; <sup>5</sup>Department of Community Sustainability, Michigan State University, East Lansing, MI; <sup>6</sup>Departments of Nutrition and Epidemiology, Harvard T.H. Chan School of Public Health, Boston, MA; <sup>7</sup>Dell Medical School at the University of Texas, Austin, TX

### ABSTRACT

To support food security for current and future generations, there is a need to understand the relation between sustainable diets and the health of a population. In recent years, a number of studies have investigated and compared different dietary patterns to better understand which foods and eating patterns have less of an environmental impact while meeting nutritional needs and promoting health. This systematic review (SR) of population-level dietary patterns and food sustainability extends and updates the SR that was conducted by the 2015 US Dietary Guidelines Advisory Committee, an expert committee commissioned by the federal government to inform dietary guidance as it relates to the committee's original conclusions. In the original SR, 15 studies met the criteria for inclusion; since then, an additional 8 studies have been identified and included. The relations between dietary intake patterns and both health and environmental outcomes were compared across studies, with methodologies that included modeling, life cycle assessment, and land use analysis. Across studies, consistent evidence indicated that a dietary pattern higher in plant-based foods (e.g., vegetables, fruits, legumes, seeds, nuts, whole grains) and lower in animal-based foods (especially red meat), as well as lower in total energy, is both healthier and associated with a lesser impact on the environment. This dietary pattern differs from current average consumption patterns in the United States. Our updated SR confirms and strengthens the conclusions of the original US Dietary Guidelines Advisory Committee SR, which found that adherence to several well-characterized dietary patterns, including vegetarian (with variations) diets, dietary guidelines-related diets, Mediterranean-style diets, the Dietary Approaches to Stop Hypertension (DASH) diet, and other sustainable diet scenarios, promotes greater health and has a less negative impact on the environment than current average dietary intakes. *Adv Nutr* 2016;7:1005–25.

**Keywords:** food security, sustainable diets, dietary guidelines, dietary patterns, life cycle assessment, systematic review

### Introduction

Nutrition and food policy experts in the United States have long been concerned with the food security of the public. These concerns typically have been framed in the here and now; however, as a greater understanding of the human impact on the biosphere emerges, we recognize that actions taken now affect or constrain future choices. Hence, it is important to understand how our actions (dietary patterns and choices) in 2016 affect the potential for food security in the future. Long-term food security can be ensured only if we consider the sustainability of our food supply now.

Two established definitions from the FAO are relevant to this work (1, 2). *Food security* exists when all people at all times have physical and economic access to sufficient, safe, and nutritious food to meet their dietary needs and food preferences for an active, healthy life. *Sustainable diets* are those diets that have low environmental impact and contribute to food and nutrition security and a healthy life for present and future generations. Sustainable diets are protective and respectful of biodiversity and ecosystems; culturally acceptable; accessible; economically fair; affordable; and nutritionally adequate, safe, and healthy while optimizing natural and human resources.

Dietary patterns are defined as the quantities, proportions, variety, or combinations of different foods and beverages in diets and the frequency with which they are habitually consumed (3). The current emphasis on healthy eating patterns,

\* Portions of the systematic review were originally published by these authors in the Scientific Report of the 2015 US Dietary Guidelines Advisory Committee.

<sup>2</sup> Author disclosures: Ms Nelson, MW Hamm, FB Hu, SA Abrams, and TS Griffin, no conflicts of interest.

<sup>3</sup> To whom correspondence should be addressed. E-mail: miriam.nelson@unh.edu.

©2016 American Society for Nutrition. *Adv Nutr* 2016;7:1005–25; doi:10.3945/an.116.012567.

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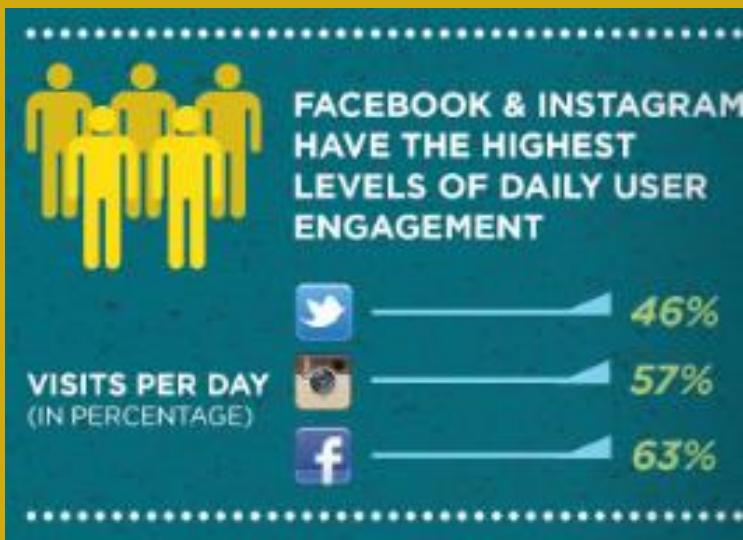


# CONSUMER SPACE

# GLOBAL SOCIAL MEDIA TRENDS

15

- ▶ 93% of online adults have at least one social media account
  - ▶ Average is 6 social media accounts
  - ▶ Engage actively with 3.5 of them daily – Facebook, Instagram then Twitter



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Nusr-Et Steakhouse E... Follow

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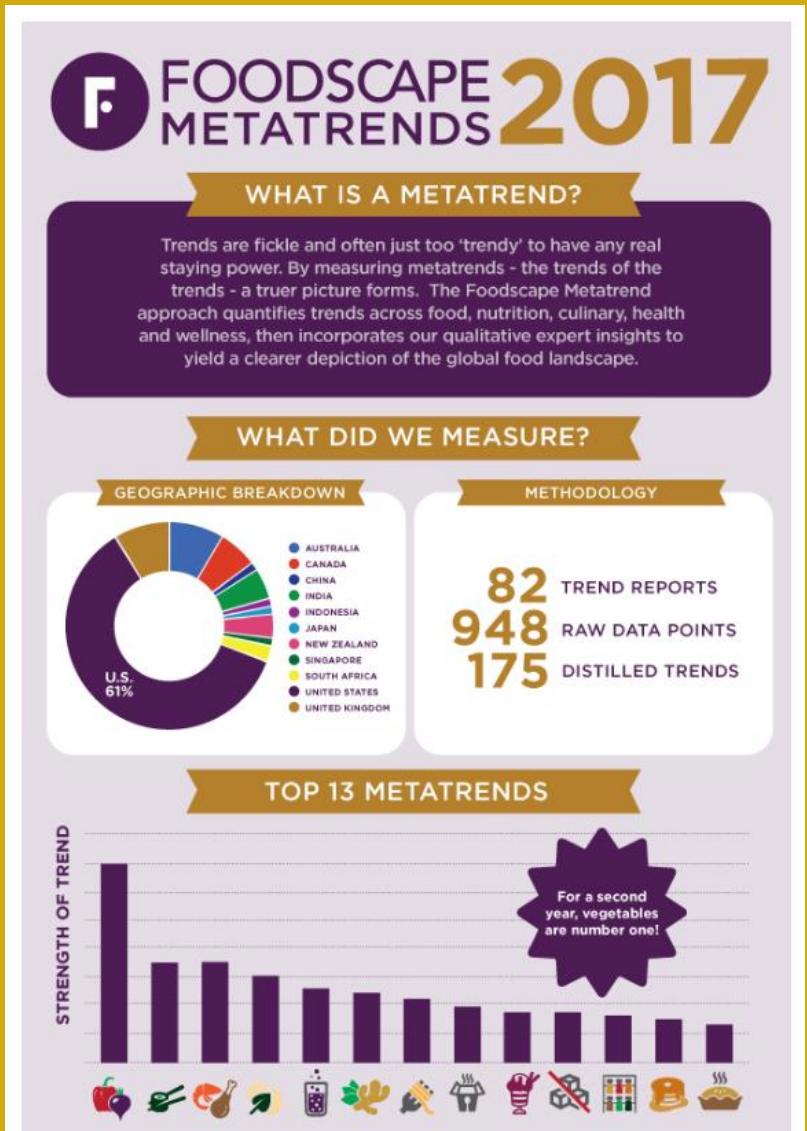
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# DETERMINING THE METATRENDS: The Trends Of The Trends

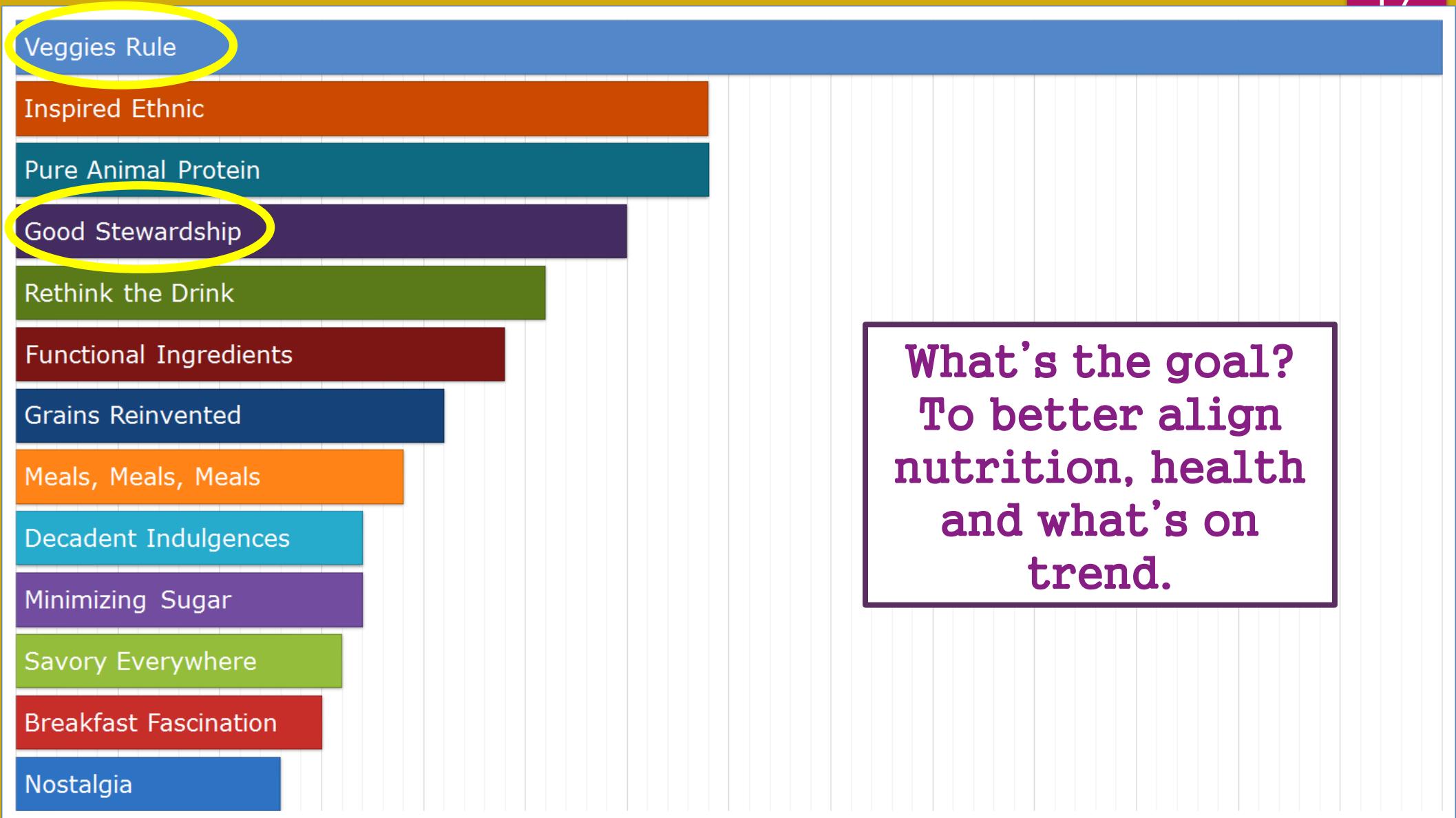
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- ▶ Sourced 82 global trends reports in areas of food, nutrition, culinary, wellness
  - ▶ ~60% U.S. reports
  - ▶ ~ 40% non-U.S. from Australia, China, India, Indonesia, UK, South Africa, Singapore, etc.
  - ▶ Reports dated late 2016/early 2017
- ▶ Analyzed 948 unique data points from the reports
- ▶ Tabulated each trend and determined frequencies
- ▶ Identified top metatrends
- ▶ Investigated the subtrends driving each metatrend
- ▶ Go to [www.foodscapegroup.com/metatrends](http://www.foodscapegroup.com/metatrends)

# TOP 13 FOODSCAPE METATRENDS

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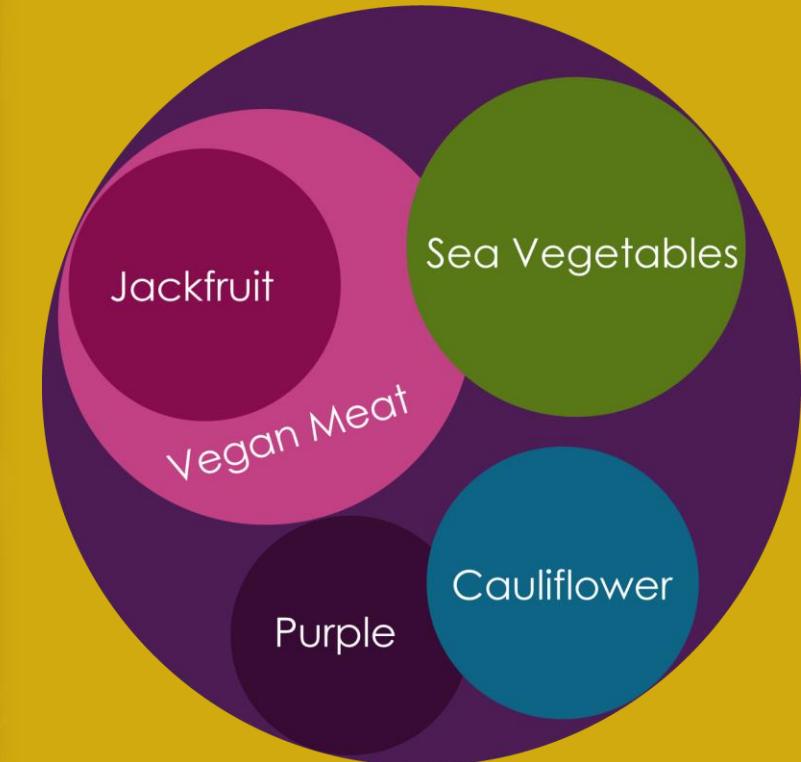




# VEGGIES RULE

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- ▶ For the second year in a row, vegetables are the #1 metatrend globally
- ▶ Subtrends reveal emphasis on ocean/sea sources and veggies as meat-replacement options
- ▶ Purple is on trend – visuals do matter!
- ▶ Overall signal of broader trend of plant-based eating becoming more mainstream





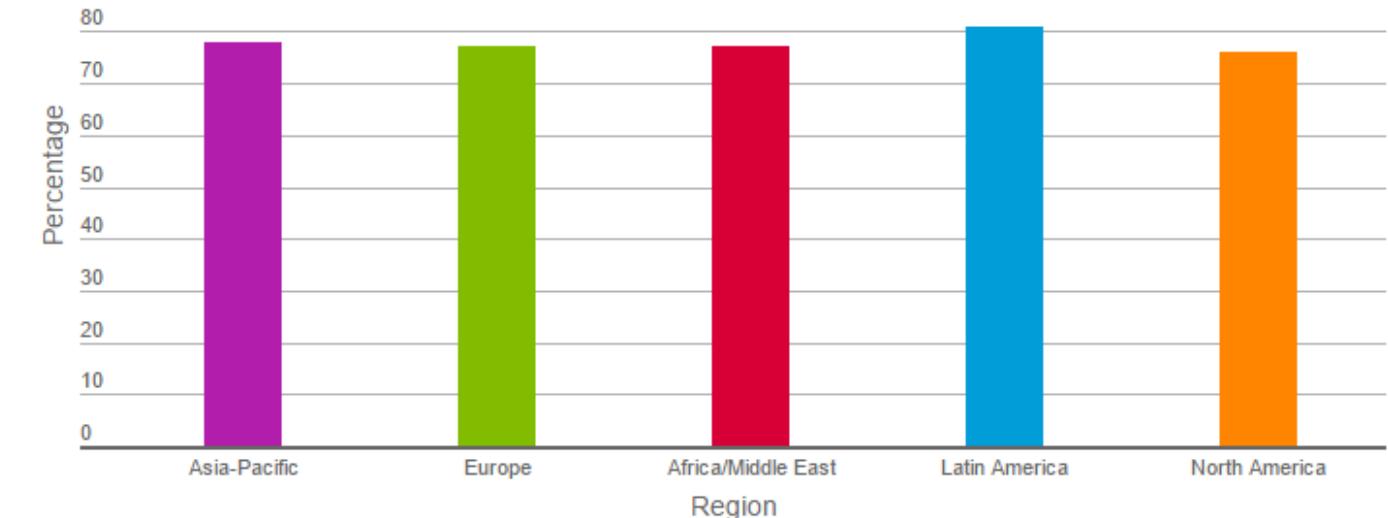
# GOOD STEWARDSHIP



19

40% of food goes to waste in the United States. Globally, 50% of all fruits and vegetables produced each year go to waste. That's 3.7 trillion apples.

“Homemade food is healthier than industrially prepared food.”



# SUSTAINABLE CALORIE SOURCES

20



UNIVERSITY OF  
MARYLAND

- ▶ Shift to more plant-based calories, especially for protein sources
- ▶ Use the whole fruit and vegetable – 'root to stem' – often there are nutritional benefits by using the apple peel or beet greens for example
- ▶ Be especially mindful of not wasting the resource-intensive calories

| PER EACH 100 CALORIE SERVING |                  |                                   |                       |
|------------------------------|------------------|-----------------------------------|-----------------------|
| Food                         | Grams of Protein | Grams of CO <sub>2</sub> produced | Gallons of water used |
| ✗ Egg                        | 8                | 324                               | 65                    |
| ✗ Chicken breast             | 17               | 226                               | 40                    |
| ✗ Hamburger                  | 9                | 649                               | 150                   |
| Black Beans                  | 7                | 24                                | 43                    |
| ✓ Chickpeas                  | 3                | 6                                 | 11                    |
| Tofu                         | 11               | 48                                | 50                    |
| Seitan                       | 22               | 53                                | 113                   |
| Lentils                      | 9                | 47                                | 147                   |
| Sunflower seeds              | 3                | 15                                | 16                    |
| Brown Rice                   | 2                | 59                                | 17                    |
| Broccoli                     | 7                | 105                               | 23                    |
| ✓ Oats                       | 3                | 9                                 | 19                    |
| Dairy Milk                   | 7                | 162                               | 54                    |
| ✓ Peanuts (in shell)         | 5                | 11                                | 14                    |
| Peanuts (no shell)           | 5                | 11                                | 20                    |
| Dark Chocolate               | 2                | 10                                | 79                    |
| Cheddar Cheese               | 6                | 54                                | 33                    |
| Green peas                   | 7                | 36                                | 21                    |



Food and Agriculture  
Organization of the  
United Nations

| Source   | Feed Conversion Ratio | % Edible | Throughput |
|----------|-----------------------|----------|------------|
| Salmon   | 1.2                   | 62%      | 52         |
| Cricket  | 1.7                   | 80%      | 47         |
| Chicken  | 1.9                   | 55%      | 29         |
| Mealworm | 2.2                   | 100%     | 45         |
| Pork     | 5.9                   | 55%      | 9          |
| Beef     | 8.7                   | 40%      | 5          |

**Feed Conversion Ratio** = one pound of body mass requires X pounds of food

**Throughput** = one hundred pounds of feed produces X pounds of edible food

# PRODUCT EXAMPLES

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# ONE MORE EXAMPLE

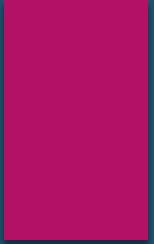
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Pea protein isolate, expeller pressed canola oil, refined coconut oil, water, yeast extract, maltodextrin, natural flavors, gum arabic, sunflower oil, salt, succinic acid, acetic acid, non-gmo modified food starch, cellulose from bamboo, methylcellulose, potato starch, beet juice extract (for color), ascorbic acid (to maintain color), annatto extract (for color), citrus fruit extract (to maintain quality), vegetable glycerin.

- ▶ "I'm not sure vegetarians want their meat to bleed? Maybe they over thought this one."
- ▶ "In one word: yuk!"
- ▶ "The 'blood,' a substance that the company calls 'heme,' is produced by genetically modified yeast cells. I will pass on that."
- ▶ "The taste or blood isn't the issue for me, it's the GMO formulation that would keep me from trying it."
- ▶ "Wheat and GMO yeast? Count me out."
- ▶ "Enjoy... i would give it to cows so at the end of the day real meat will taste even better."





# SCIENCE IN THE HEADLINES

“My take on this would be that it's not saturated fat that we should worry about in our diets,” said Dr Chowdhury, lead study author.

REVIEW

Annals of Internal Medicine

## Association of Dietary, Circulating, and Supplement Fatty Acids With Coronary Risk

### A Systematic Review and Meta-analysis

Rajiv Chowdhury, MD, PhD; Samantha Warnakula, MPhil\*; Setor Kunutsor, MD, MSt\*; Francesca Crowe, PhD; Heather A. Ward, PhD; Laura Johnson, PhD; Oscar H. Franco, MD, PhD; Adam S. Butterworth, PhD; Nita G. Forouhi, MRCP, PhD; Simon G. Thompson, FMedSci; Kay-Tee Khaw, FMedSci; Dariush Mozaffarian, MD, DrPH; John Danesh, FRCP\*; and Emanuele Di Angelantonio, MD, PhD\*

**Background:** Guidelines advocate changes in fatty acid consumption to promote cardiovascular health.

**Purpose:** To summarize evidence about associations between fatty acids and coronary disease.

**Data Sources:** MEDLINE, Science Citation Index, and Cochrane Central Register of Controlled Trials through July 2013.

**Study Selection:** Prospective, observational studies and randomized, controlled trials.

**Data Extraction:** Investigators extracted data about study characteristics and assessed study biases.

**Data Synthesis:** There were 32 observational studies (530 525 participants) of fatty acids from dietary intake; 17 observational studies (25 721 participants) of fatty acid biomarkers; and 27 randomized, controlled trials (103 052 participants) of fatty acid supplementation. In observational studies, relative risks for coronary disease were 1.02 (95% CI, 0.97 to 1.07) for saturated, 0.99 (CI, 0.89 to 1.09) for monounsaturated, 0.93 (CI, 0.84 to 1.02) for long-chain  $\omega$ -3 polyunsaturated, 1.01 (CI, 0.96 to 1.07) for  $\omega$ -6 polyunsaturated, and 1.16 (CI, 1.06 to 1.27) for trans fatty acids when the top and bottom thirds of baseline dietary fatty acid intake were compared. Corresponding estimates for circulating fatty acids

were 1.06 (CI, 0.86 to 1.30), 1.06 (CI, 0.97 to 1.17), 0.84 (CI, 0.63 to 1.11), 0.94 (CI, 0.84 to 1.06), and 1.05 (CI, 0.76 to 1.44), respectively. There was heterogeneity of the associations among individual circulating fatty acids and coronary disease. In randomized, controlled trials, relative risks for coronary disease were 0.97 (CI, 0.69 to 1.36) for  $\alpha$ -linolenic, 0.94 (CI, 0.86 to 1.03) for long-chain  $\omega$ -3 polyunsaturated, and 0.89 (CI, 0.71 to 1.12) for  $\omega$ -6 polyunsaturated fatty acid supplementations.

**Limitation:** Potential biases from preferential publication and selective reporting.

**Conclusion:** Current evidence does not clearly support cardiovascular guidelines that encourage high consumption of polyunsaturated fatty acids and low consumption of total saturated fats.

**Primary Funding Source:** British Heart Foundation, Medical Research Council, Cambridge National Institute for Health Research Biomedical Research Centre, and Gates Cambridge.

*Ann Intern Med.* 2014;160:398-406.

[www.annals.org](http://www.annals.org)

For author affiliations, see end of text.

\* Ms. Warnakula and Dr. Kunutsor contributed equally to this work. Drs. Danesh and Di Angelantonio also contributed equally to this work.

“Current evidence does not clearly support cardiovascular guidelines that encourage high consumption of polyunsaturated fatty acids and low consumption of total saturated fats.”

# 'BUTTER IS BACK' FOLLOWS

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**Well**

HEART

**Study Questions Fat and Heart Disease Link**

By ANAHAD O'CONNOR MARCH 17, 2014, 5:00 PM

**Butter Is Back**

MARCH 25, 2014

  
**Mark Bittman**

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**"A GLORIOUS MESS."** SIMPLY MAKE

**Top Stories**  
This article and others like it are

**A new study questions the relationship between saturated fat and heart disease.**

**"It would be unfortunate if these results were interpreted to suggest that people can go back to eating butter and cheese with abandon,"** says Dr Alice Lichtenstein, Tufts University

The Opinion Pages | CONTRIBUTING OP-ED WRITER

**Butter Is Back**

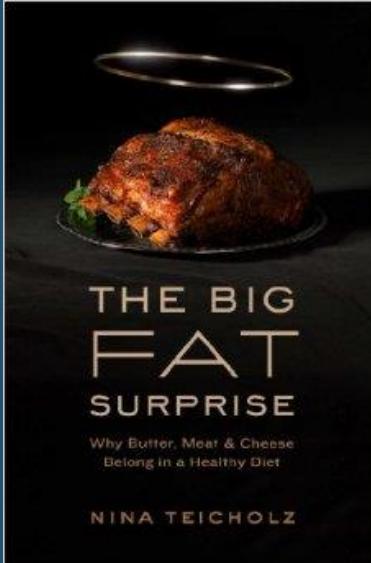
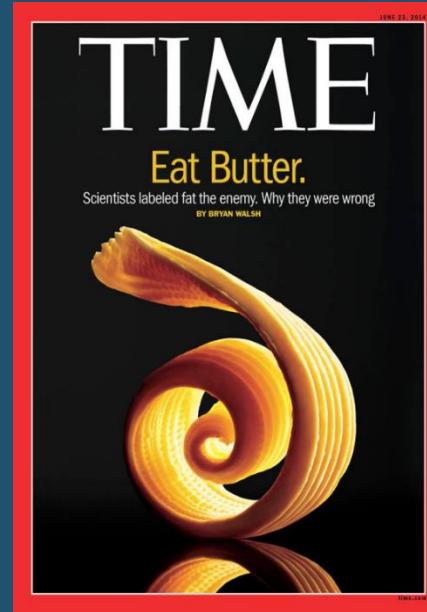
639 COMMENTS

Julia Child, goddess of fat, is beaming somewhere. Butter is back, and when you're looking for a few chunks of pork for a stew, you can resume searching for the best pieces — the ones with the most fat. Eventually, your friends will stop glaring at you as if you're trying to kill them.

That the worm is turning became increasingly evident a couple of weeks ago, when a meta-analysis published in the journal Annals of Internal Medicine found that there's just no evidence to support the notion that saturated fat increases the risk of heart disease. (In fact, there's some evidence that a lack of saturated fat may be damaging.) The researchers looked at 22 different studies and, as usual, said more work — including more clinical studies — is needed. For sure. But the days of skinless chicken breasts and tubs of I Can't Believe It's Not Butter may finally be drawing to a close.

The tip of this iceberg has been visible for years, and we're finally beginning to see the base. Of course, no study is perfect and few are definitive. But the **real villains** in our diet — sugar and ultra-processed foods — are becoming increasingly apparent. You can go back to eating butter, if you haven't already.

This doesn't mean you abandon fruit for beef and cheese; you just abandon fake food for real food, and in that category of real food you can include good



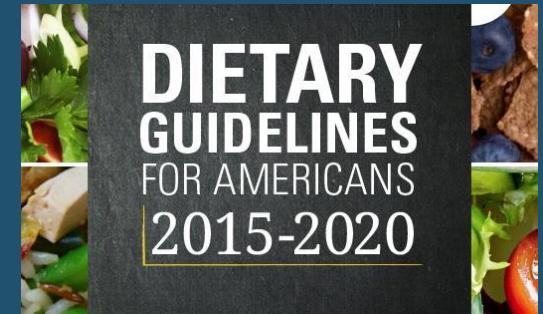
# SAT FAT CONTROVERSY CONTINUES

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TIME

- ▶ “Dr. Dariush Mozaffarian, dean of the Tufts Friedman School of Nutrition and Science Policy, and his colleagues found that eating too little vegetable oils contributes to more heart-related deaths than eating saturated fats.
- ▶ In fact, **only 3.6% of global heart deaths can be attributed to eating too much saturated fat, while just over 10% of heart deaths can be traced to eating too little plant oils** — a three-fold difference.
- ▶ The study included detailed dietary information from studies involving 3.8 billion people in 186 countries.”



**NO MORE THAN 10% OF CALORIES FROM SATURATED FAT**

# PLUS THE SUGAR DEBATES

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## ARTICLE

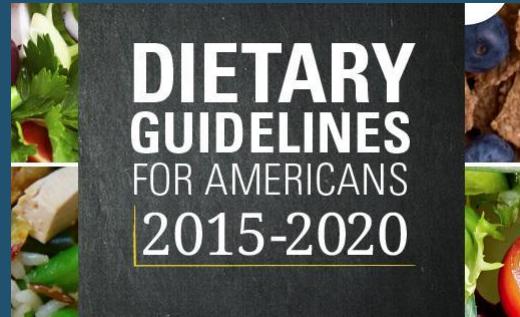
doi:10.1038/nature13793

### Artificial sweeteners induce glucose intolerance by altering the gut microbiota

Jotham Suez<sup>1</sup>, Tal Korem<sup>2\*</sup>, David Zeevi<sup>2\*</sup>, Gili Zilberman-Schapira<sup>1\*</sup>, Christoph A. Thaiss<sup>1</sup>, Ori Mazal<sup>1</sup>, David Israeli<sup>3</sup>, Niv Zmora<sup>4,5,6</sup>, Shlomit Gilad<sup>7</sup>, Adina Weinberger<sup>2</sup>, Yael Kuperman<sup>8</sup>, Alon Harmelin<sup>8</sup>, Ilana Kolodkin-Gal<sup>9</sup>, Hagit Shapiro<sup>1</sup>, Zamir Halpern<sup>5,6</sup>, Eran Segal<sup>2</sup> & Eran Elinav<sup>1</sup>

Non-caloric artificial sweeteners (NAS) are among the most widely used food additives worldwide, regularly consumed by lean and obese individuals alike. NAS consumption is considered safe and beneficial owing to their low caloric content, yet supporting scientific data remain sparse and controversial. Here we demonstrate that consumption of commonly used NAS formulations drives the development of glucose intolerance through induction of compositional and functional alterations to the intestinal microbiota. These NAS-mediated deleterious metabolic effects are abrogated by antibiotic treatment, and are fully transferable to germ-free mice upon faecal transplantation of microbiota configurations from NAS-consuming mice, or of microbiota anaerobically incubated in the presence of NAS. We identify NAS-altered microbial metabolic pathways that are linked to host susceptibility to metabolic disease, and demonstrate similar NAS-induced dysbiosis and glucose intolerance in healthy human subjects. Collectively, our results link NAS consumption, dysbiosis and metabolic abnormalities, thereby calling for a reassessment of massive NAS usage.

- ▶ 2014 study in *Nature* tested saccharin, sucralose and aspartame - concluded artificial sweeteners "induced glucose intolerance by altering the gut microbiome" in mice
- ▶ Called into question potential gut effects all non-nutritive artificial sweeteners
- ▶ Gut health since linked to mood, blood sugar control, immunity and more



NO MORE THAN  
10% OF CALORIES  
FROM ADDED  
SUGARS

## Nutrition Facts

Serving Size 2/3 cup (55g)  
Servings Per Container About 8

| Amount Per Serving            | Calories | Calories from Fat | % Daily Value* |
|-------------------------------|----------|-------------------|----------------|
| <b>Total Fat</b> 8g           | 230      | 72                | 12%            |
| Saturated Fat 1g              |          |                   | 5%             |
| Trans Fat 0g                  |          |                   |                |
| <b>Cholesterol</b> 0mg        |          |                   | 0%             |
| <b>Sodium</b> 160mg           |          |                   | 7%             |
| <b>Total Carbohydrate</b> 37g |          |                   | 12%            |
| Dietary Fiber 4g              |          |                   | 16%            |
| Sugars 1g                     |          |                   |                |
| <b>Protein</b> 3g             |          |                   |                |
| Vitamin A                     |          |                   | 10%            |
| Vitamin C                     |          |                   | 8%             |
| Calcium                       |          |                   | 20%            |
| Iron                          |          |                   | 45%            |

\* Percent Daily Values are based on a 2,000 calorie diet.  
Your daily value may be higher or lower depending on  
your calorie needs.

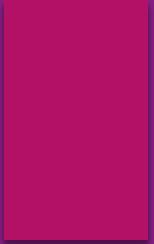
|                           | Calories: | 2,000   | 2,500   |
|---------------------------|-----------|---------|---------|
| <b>Total Fat</b>          | Less than | 65g     | 80g     |
| Sat Fat                   | Less than | 20g     | 25g     |
| Cholesterol               | Less than | 300mg   | 300mg   |
| Sodium                    | Less than | 2,400mg | 2,400mg |
| <b>Total Carbohydrate</b> | 300g      | 375g    |         |
| Dietary Fiber             | 25g       | 30g     |         |

## Nutrition Facts

8 servings per container  
Serving size 2/3 cup (55g)

| Amount per serving            | Calories | % Daily Value* |
|-------------------------------|----------|----------------|
| <b>Calories</b> 230           |          |                |
| <b>Total Fat</b> 8g           | 10%      |                |
| Saturated Fat 1g              | 5%       |                |
| Trans Fat 0g                  |          |                |
| <b>Cholesterol</b> 0mg        | 0%       |                |
| <b>Sodium</b> 160mg           | 7%       |                |
| <b>Total Carbohydrate</b> 37g | 13%      |                |
| Dietary Fiber 4g              | 14%      |                |
| Total Sugars 12g              |          |                |
| Includes 10g Added Sugars     | 20%      |                |
| <b>Protein</b> 3g             |          |                |
| Vitamin D 2mcg                | 10%      |                |
| Calcium 260mg                 | 20%      |                |
| Iron 8mg                      | 45%      |                |
| Potassium 235mg               | 6%       |                |

\* The % Daily Value (DV) tells you how much a nutrient in a serving of food contributes to a daily diet. 2,000 calories a day is used for general nutrition advice.



ENTER MODERN STORYTELLING...

# 5 KEY TENETS

- ▶ POSITION YOUR PURPOSE
- ▶ KNOW YOUR AUDIENCE
- ▶ THINK 'CO' AND 'MICRO'
- ▶ CALIBRATE THE SCIENCE
- ▶ MAINTAIN CREDIBILITY

# POSITION YOUR PURPOSE



## Our Process

How do we do it? With natural resources and human ingenuity. Instead of having cows do all the work, we make our milk with a process similar to craft brewing. Using yeast and age-old fermentation techniques, we make the very same milk proteins that cows make.



Then we add a special mix of plant-based sugars, fats, and minerals to make a totally new kind of dairy milk without stabilizers, hormones, lactose, or other nonsense.

[SEE OUR FAQ FOR MORE INFO](#)

# POSITION YOUR PURPOSE



**“INTRODUCING THE FUNCTIONAL GRANOLA BAR. Made with our award-winning Ancient Grain Granola + powered by 2g of Superfood Mushrooms.**

Mushrooms you can feel, NOT taste! Each bar is made with 2g of an Om Mushroom™ blend. These blends are uniquely formulated with potent mushrooms like cordyceps and reishi to promote functional benefits, ranging from immunity and cognitive support, to stress relief and energy replenishment—while fueling the body with powerful adaptogens and nutrients.”

CEO, Elizabeth Stein, Certified Holistic Health Coach has seen their powers first hand, by sipping on mushrooms....

“You really notice the difference right away,” she says. “The blend I drink [a mixture of cordyceps and reishi] has given me sustained energy and focus throughout the day, no crash or jitters.”



# SO MANY AUDIENCES...SO LITTLE TIME

33

Health  
Coach

Sales

Consumer

Dietitian

Investor



F

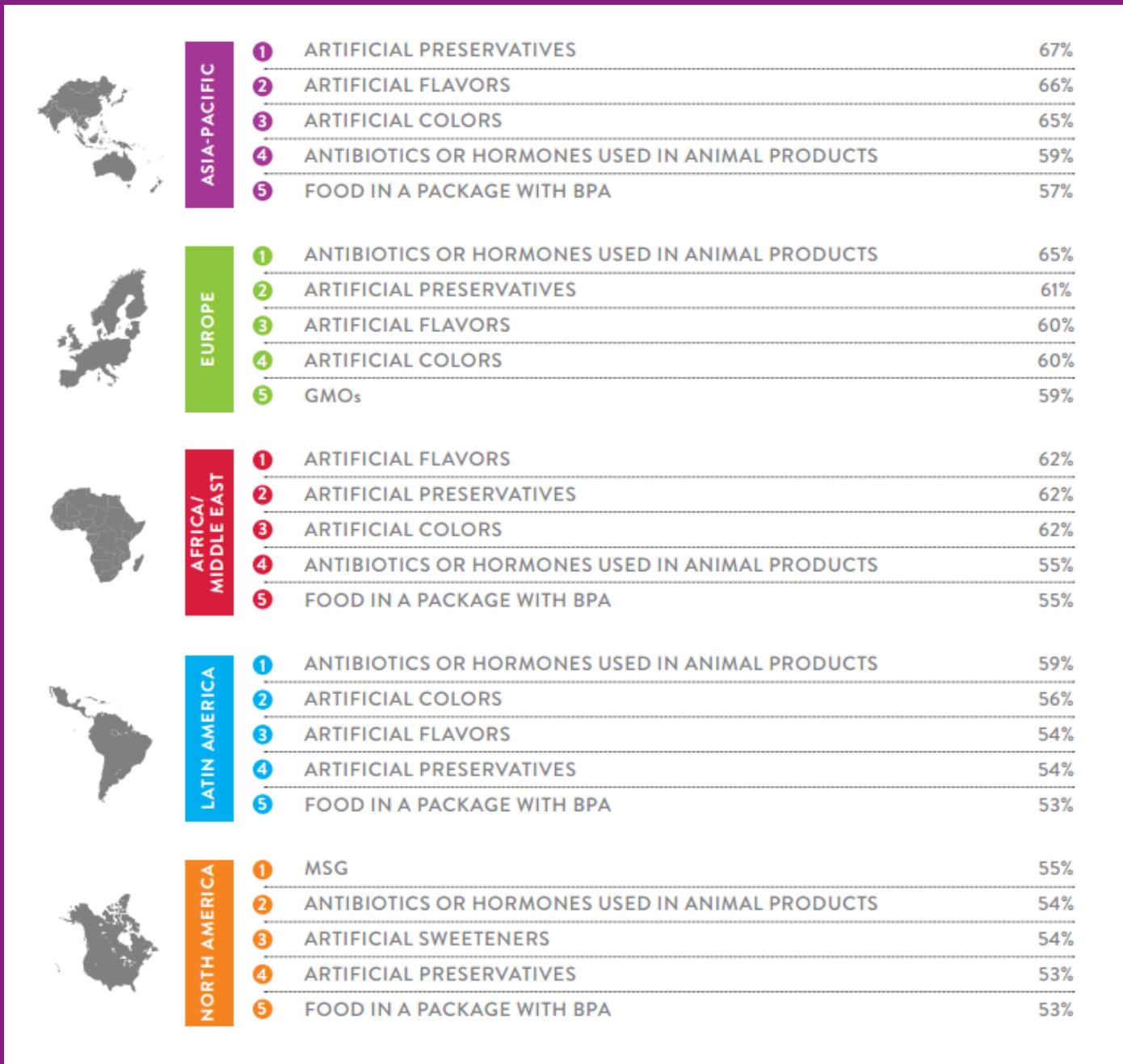
Journalist

Regulatory

New Hire

# KNOW YOUR AUDIENCE: CLEAN LABEL

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# 'CLEAN LABEL' BY AUDIENCE

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| ORIGINAL FORMULA   |                      |
|--|----------------------|
| Serving Size 1 Cup (240 mL)<br>Servings Per Container 4  |                      |
| Amount Per Serving   | Calories from Fat 25 |
| <b>Calories 60</b>   |                      |
| % Daily Values*  |                      |
| Total Fat 2.5g   | 4%                   |
| Saturated Fat 0g   | 0%                   |
| Trans Fat 0g   |                      |
| Cholesterol 0mg  | 0%                   |
| Sodium 150mg   | 5%                   |
| Potassium 180mg  | 6%                   |
| Total Carbohydrate 8g  | 3%                   |
| Dietary Fiber 1g   | 4%                   |
| Sugars 7g  |                      |
| Protein 1g   | 2%                   |
| Vitamin A 10% •  | Vitamin C 0%         |
| Calcium 45% •  | Iron 4%              |
| Vitamin D 25% •  | Vitamin E 50%        |
| Phosphorus 2% •  | Magnesium 4%         |
| *Percent Daily Values are based on a 2,000 calorie diet. Your Daily Values may be higher or lower depending on your calorie needs. |                      |
| Calories 2,000   | 2,500                |
| Total Fat Less than 65g  | 80g                  |
| Sat Fat Less than 20g  | 25g                  |
| Cholesterol Less than 300mg  | 300mg                |
| Sodium Less than 2400mg  | 2400mg               |
| Total Carbohydrate 300g  | 375g                 |
| Dietary Fiber 25g  | 30g                  |

INGREDIENTS: ALMONDMILK (FILTERED WATER, ALMONDS), EVAPORATED CANE JUICE, CALCIUM CARBONATE, SEA SALT, POTASSIUM CITRATE, CARRAGEENAN, SUNFLOWER LECITHIN, VITAMIN A PALMITATE, VITAMIN D2, D-ALPHA-TOCOPHEROL (NATURAL VITAMIN E).

| NEW FORMULA  |                      |
|--|----------------------|
| Serving Size 1 Cup (240 mL)<br>Servings Per Container 4  |                      |
| Amount Per Serving   | Calories from Fat 25 |
| <b>Calories 60</b>   |                      |
| % Daily Values*  |                      |
| Total Fat 2.5g   | 4%                   |
| Saturated Fat 0g   | 0%                   |
| Trans Fat 0g   |                      |
| Cholesterol 0mg  | 0%                   |
| Sodium 130mg   | 5%                   |
| Potassium 170mg  | 5%                   |
| Total Carbohydrate 8g  | 3%                   |
| Dietary Fiber 1g   | 4%                   |
| Sugars 7g  |                      |
| Protein 1g   | 2%                   |
| Vitamin A 10% •  | Vitamin C 0%         |
| Calcium 45% •  | Iron 4%              |
| Vitamin D 25% •  | Vitamin E 50%        |
| Riboflavin 2%  | Phosphorus 2%        |
| Magnesium 4%   | Zinc 2%              |
| Copper 2%  | Manganese 6%         |
| *Percent Daily Values are based on a 2,000 calorie diet. Your Daily Values may be higher or lower depending on your calorie needs. |                      |
| Calories 2,000   | 2,500                |
| Total Fat Less than 65g  | 80g                  |
| Sat Fat Less than 20g  | 25g                  |
| Cholesterol Less than 300mg  | 300mg                |
| Sodium Less than 2400mg  | 2400mg               |
| Total Carbohydrate 300g  | 375g                 |
| Dietary Fiber 25g  | 30g                  |

INGREDIENTS: ALMONDMILK (FILTERED WATER, ALMONDS), EVAPORATED CANE JUICE, CALCIUM CARBONATE, POTASSIUM CITRATE, SEA SALT, SUNFLOWER LECITHIN, GELLAN GUM, VITAMIN A PALMITATE, VITAMIN D2, D-ALPHA-TOCOPHEROL (NATURAL VITAMIN E).

Consumers questioning anything extra...this means carrageenan, gellan gum, and other "thickener" or "creamier" type agents

| Nutrition Facts  |                       |
|--|-----------------------|
| Serving Size:1 serving (8oz/226.8g)<br>Servings Per Bottle:3.5   |                       |
| Amount Per Serving   | Calories from Fat 100 |
| <b>Calories 130</b>  |                       |
| % Daily Value*   |                       |
| Total Fat 11g  | 17%                   |
| Saturated Fat 1g   | 4%                    |
| Trans Fat 0g   |                       |
| Cholesterol 0mg  | 0%                    |
| Sodium 100mg   | 4%                    |
| Total Carbohydrate 5g  | 2%                    |
| Dietary Fiber 3g   | 11%                   |
| Sugars less than 1g  |                       |
| Protein 5g   |                       |
| Vitamin A 0% •   | Vitamin C 0%          |
| Calcium 6% •   | Iron 4%               |
| *Percent Daily Values are based on a 2,000 calorie diet. Your Daily Values may be higher or lower depending on your calorie needs. |                       |
| Calories 2,000   | 2,500                 |
| Total Fat Less than 65g  | 80g                   |
| Sat Fat Less than 20g  | 25g                   |
| Cholesterol Less than 300mg  | 300mg                 |
| Sodium Less than 2400mg  | 2400mg                |
| Total Carbohydrate 300g  | 375g                  |
| Dietary Fiber 25g  | 30g                   |

Ingredients: Distilled Water, Organic Almonds, Natural Himalayan Salt

Ingredients: Organic Almonds, Himalayan Salt, Filtered Water.  
Allergen Statement: Contains Tree Nuts



"We use over 1 cup of organic and truly raw almonds from Spain to make your rich and creamy nutty beverage."

# KNOW YOUR AUDIENCE

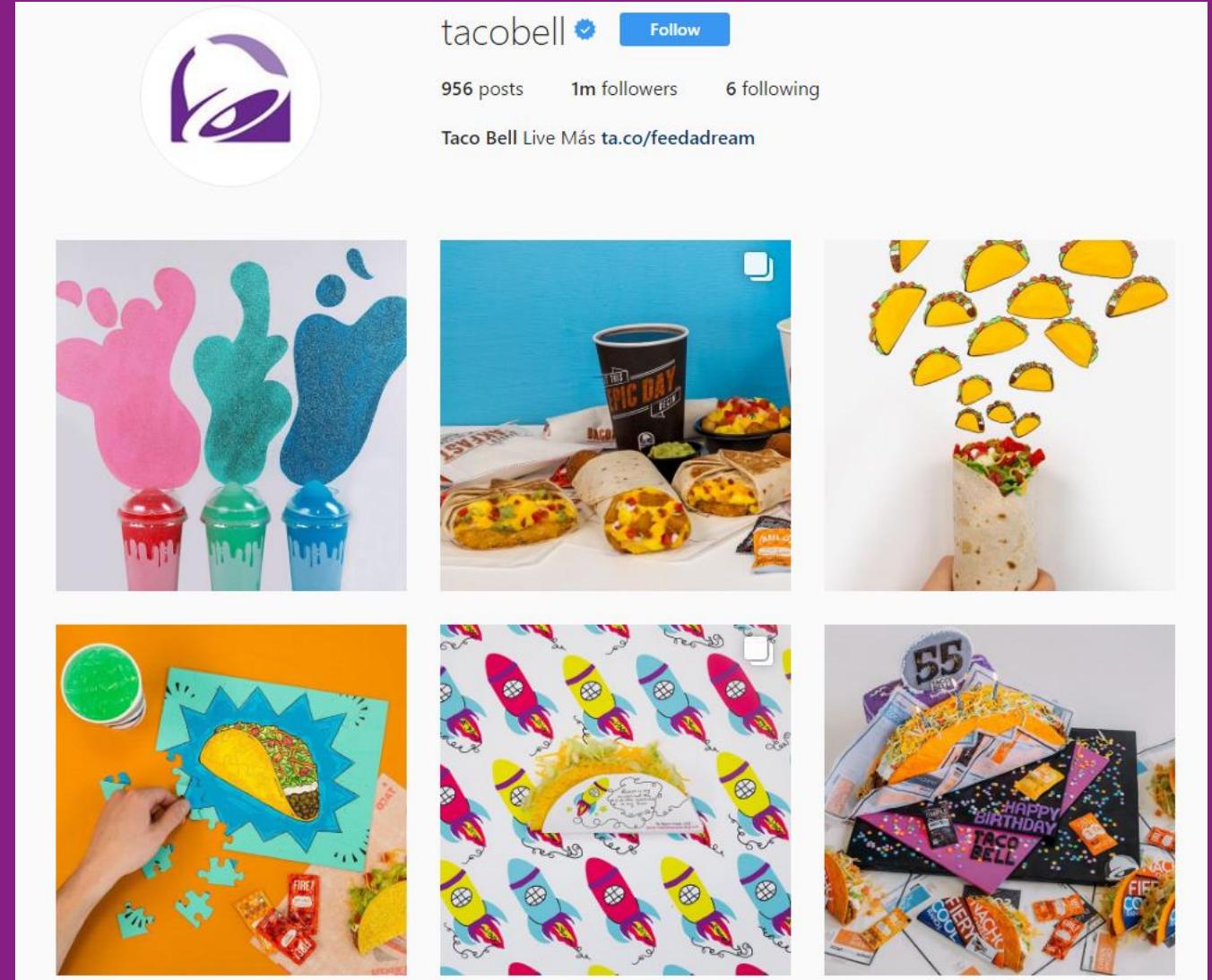
36



# KNOW YOUR AUDIENCE

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- ▶ "We want to be a part of culture," Liz Matthews, Taco Bell's chief innovation officer, told Business Insider.
- ▶ "We want people to talk about it, and blog about it, and get excited, and share their pictures," Matthews said. "We can always make food taste good. But, how do you get that twist that makes it a part of people's lives instead of just eating?"
- ▶ The team keeps tabs on most 'instagrammed' items to inform future R&D efforts



# THINK CO & MICRO

38

- 60% of B2B marketers said that producing 'engaging' content was top challenge
- 72% cited the need to create more engagement content as their #1 priority going forward
- More than 80% of Americans seek out referrals or recommendations when making a purchase of any kind



- ▶ CO - CREATE
  - ▶ Seek co-creators for authentic and engaging content
  - ▶ Allows for partnerships with experts, influencers and those who offer skills/expertise/communities that you may not have direct access to
- ▶ MICRO - INFLUENCER
  - ▶ Recognize that celebrity influencers and other 'well known' people may not be necessary or even desirable for quality engagement
  - ▶ Go for 'microinfluencers' – people who may not have huge online followings but who are in line with your corporate values, brand offering and have their own loyal audience



## Wellness Advisory Panel

At Plum Organics, we recognize the mighty challenge of creating nutritious and delicious organic foods for little ones. And, we know we can't do it without some help from some very smart people. That's why we created our Plum Wellness Advisory Panel, a hybrid, multi-disciplinary team of experts from diverse backgrounds including pediatric medicine, nutrition, food science, culinary arts and food ingredient innovation. Our Wellness Advisory Panel helps ensure Plum's mission - to nourish little ones with the very best food from the very first bite - is actionable, credible and grounded in the most progressive thinking out there.

**Alan Greene, MD**  
Dr. Alan Greene is a powerful advocate in the Plum Organics mission and has been connected to the brand since the very beginning. An internationally renowned practicing pediatrician, author, speaker, and children's health advocate, Dr. Greene is a graduate of Princeton University and the University of California, San Francisco. Upon completion of his pediatric residency program at Children's Hospital Medical Center of Northern California, he served there as Chief Resident. In 2010, Dr. Greene founded the *WhiteOut Now* movement, which aims to change how babies are fed beginning with their first bite of solid food. He entered primary care pediatrics in January 1993, and is currently in private practice in the Silicon Valley. Dr. Greene is the proud parent of four children.

**Risa Schulman, PhD**  
Drawing on 18 years of experience working in the functional food and dietary supplement space, Risa leads Tap-Root consulting where she is able to expertly combine the worlds of functional health and ingredients in order to advise on products for better health. She is a frequent contributor to *Functional Ingredients*, *Natural Product Insider* and *R&D Insights* among other publications. In addition, she is published in various scientific journals including *Pediatric Research*, *Neurology of Disease* and *Journal of Urology*. Risa lives in New Jersey with her husband and son.

**Katie Sobel, HHC & Chef**  
With a hybrid background in communications, culinary arts and integrative nutrition, Katie has built a career at the intersection of wellness and brand strategy. Now Senior Director of Brand Engagement at Plum Organics, Katie has been a key architect of Plum's Food Philosophy since the company's earliest days, ensuring consumers are provided with the holistic resources they need to tackle early childhood nutrition and help their little ones develop a love of healthy eating. She played an instrumental role in Plum's introduction of unique ingredients that weren't previously found in baby food, including quinoa, kale and Greek yogurt. Leveraging on-trend culinary sensibilities and a keen understanding of the millennial parent, Katie inspires those around her to find (and celebrate) their own unique path to a healthier lifestyle. Katie is a graduate of The Natural Gourmet Institute for Health and Culinary Arts and the Institute for

Fatherly



## Health Pros Play Leading Role in Push for Brand Loyalty

By [E.J. Schultz](#). Published on September 14, 2016.



Lean Cuisine's 'Weigh This' campaign Credit: Lean Cuisine



**YOU ARE THE COMPANY YOU KEEP.  
TRUST YOUR STORIES.**

**AdvertisingAge**

Organic baby food maker Plum Organics got an unexpected boost years ago when Kate Middleton told *Vanity Fair* that she was coping with George's hunger pangs with the marketer's additive-free

# CALIBRATE THE SCIENCE

40

## The role of protein in weight loss and maintenance<sup>1-5</sup>

Heather J Leidy, Peter M Clifton, Arne Astrup, Thomas P Wycherley, Margriet S Westerterp-Plantenga, Natalie D Luscombe-Marsh, Stephen C Woods, and Richard D Mattes

### ABSTRACT

Over the past 20 y, higher-protein diets have been touted as a successful strategy to prevent or treat obesity through improvements in body weight management. These improvements are thought to be due, in part, to modulations in energy metabolism, appetite, and energy intake. Recent evidence also supports higher-protein diets for improve-

ments in cardiometabolic risk factors were also observed with higher-protein diets (1-4). However, one point of contention is the feasibility of adhering to a higher-protein diet for periods  $>1$  y (5, 6).

The purpose of this article is to provide an overview of the literature that explores the mechanisms of action after acute protein consumption and the clinical health outcomes after long-term, higher-

- ▶ Including protein at each meal, equally balanced throughout the day, yielded the most benefits:
  - ▶ Fat loss
  - ▶ Preservation of lean mass
  - ▶ Appetite control
- ▶ Some guideposts of 'high protein' diets:
  - ▶ 1.2 to 1.6 grams protein per kilogram body weight per day
  - ▶ Amounts to about 25 to 30 grams with each meal/snack



Our new vegan GOLEAN™ Dark Cocoa Power™ Plant-Powered Shake has 21 grams of plant-powered protein to help you take your day to new levels. And with its numerous probiotics? Hello, digestive health.

But this shake's goodness doesn't stop there. It has GOLEAN™ Super Foods, including greens, beets and sprouted legumes. Yum. Yum. Yum.

- Non-GMO Project Verified
- Gluten Free
- Vegan
- Fair Trade cocoa powder
- 3500mg BCAA
- 21g protein per serving
- Multisource plant protein
- 1 billion CFU probiotics *Bacillus coagulans*
- Low levels of sweetness\*\*



### FDA Required Disclosures

\*7g total fat per serving

\*\*Not a low-calorie food. See nutrition information for calorie and sugar content

# CALIBRATE BY AUDIENCE

41

High Protein

Health Coach

Multisource protein

Thermic effect of food

Plant-powered protein

Sales



Consumer

Investor

1 Billion CFUs

Acute protein consumption

BCAA

Dietitian

Journalist

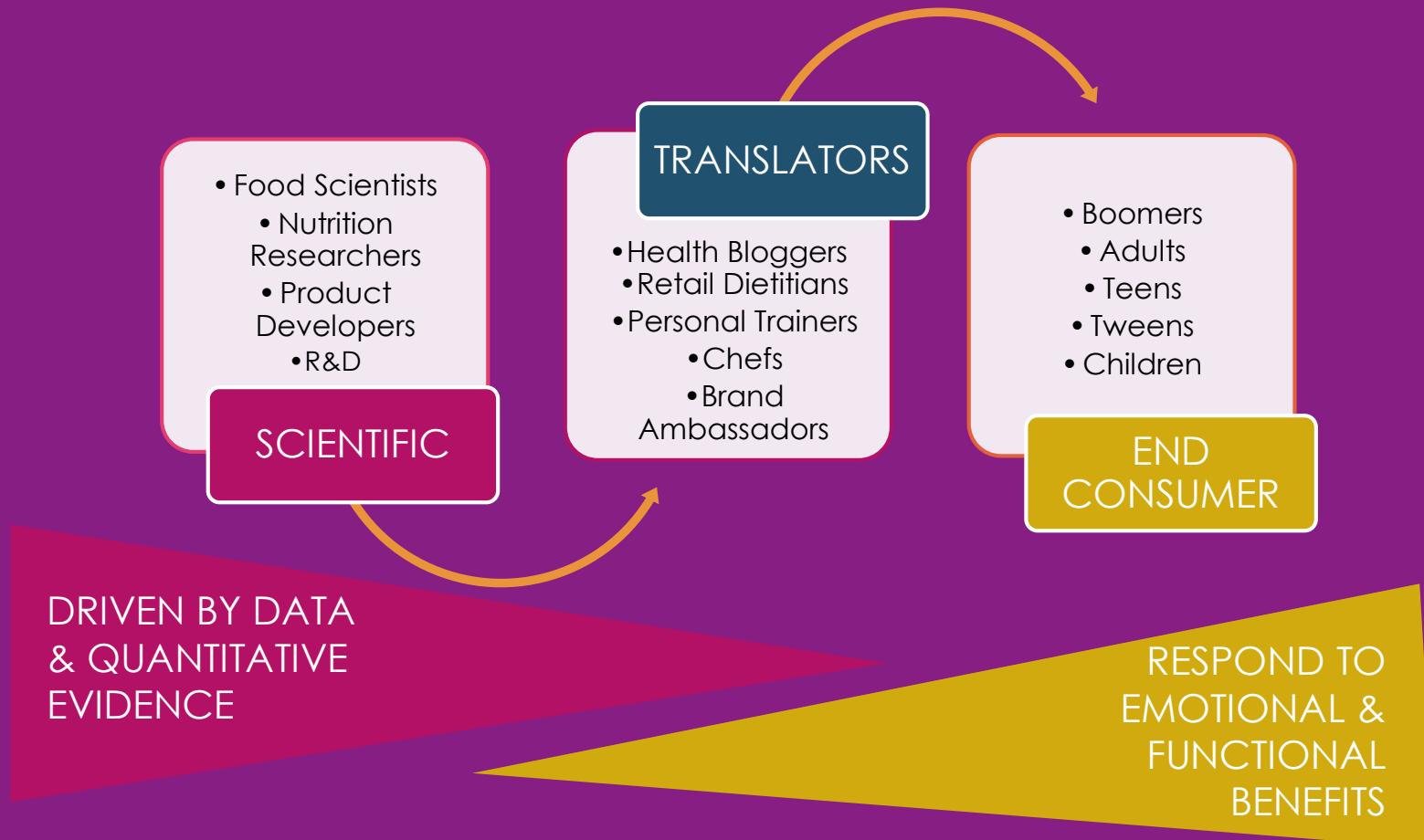
Low levels of sweetness

Regulatory

New Hire

# CALIBRATE VIA 'TRANSLATORS'

42



# MAINTAIN CREDIBILITY

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*"In establishing Feed the Truth, my intent is to elevate reputable science, bolster the voices of the nutrition community, and improve the guidance and information offered to Americans. As a business owner, I understand the importance of prioritizing your bottom line, but it's equally as important to consider how you can succeed while also thinking about the long-term impact on the community."*

-Daniel Lubetzky, CEO & Founder of KIND

- CEO Pledges \$25 million for Feed the Truth

## THOSE KEY TENETS AGAIN

- ▶ POSITION YOUR PURPOSE
- ▶ KNOW YOUR AUDIENCE
- ▶ THINK 'CO' AND 'MICRO'
- ▶ CALIBRATE THE SCIENCE
- ▶ MAINTAIN CREDIBILITY

# LASTLY, CELEBRATE 'REAL WORLD EATING'

45



# Thank You

Rachel Cheatham, PhD  
Foodscape Group, LLC  
[rachel@foodscapegroup.com](mailto:rachel@foodscapegroup.com)

