

# This is Your Brain on Fresh Produce

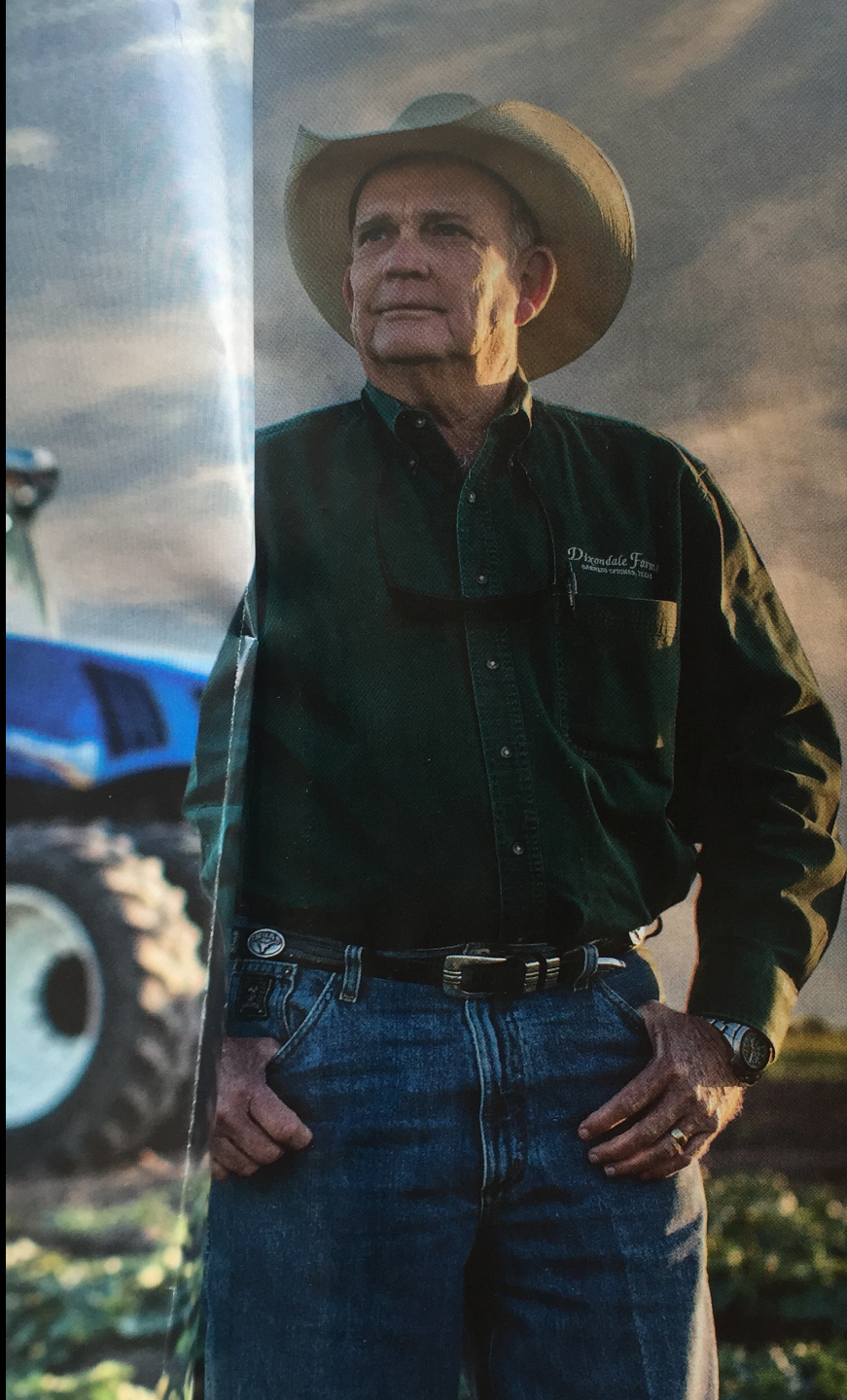
VivaFresh Expo  
San Antonio, TX  
April 2, 2016



**Brain  
Food Rx**



Drew Ramsey MD  
Assistant Clinical Professor of Psychiatry  
Columbia University, New York, NY



GROWING  
870 MILLION  
ONION  
TRANSPLANTS.  
RELYING ON  
BLUE  
WITH PRECISION  
TECHNOLOGY  
FOR EVERY SINGLE ONE.  
THE ONION MAN  
IS DEFINITELY  
NEW HOLLAND



Innovative. Responsive. Nimble.

**SINCE 2011, THERE HAS  
BEEN AN INCREASE OF  
KALE CONSUMPTION**

**+710%**



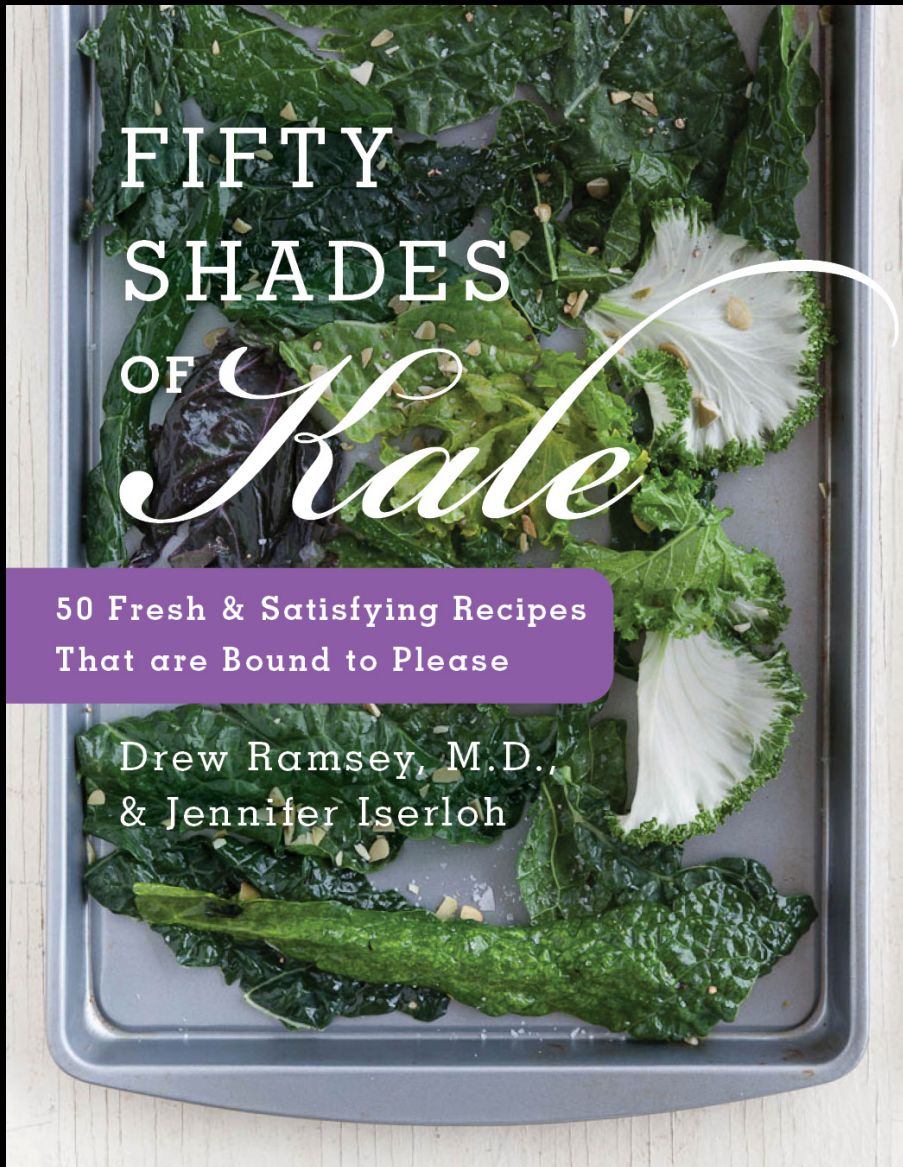
*vegetable psychiatry:*  
fennel retentive  
obsessive corn-pulsive  
parsley aggressive  
soy-ciopathic  
hummus-cidal  
gouradian analysis  
pea-ness envy  
edamame complex  
rye polar disorder  
garlic depressive

tm  
©2006 wearable vegetables  
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# Ramsey Disclosures

- National Kale Day, co-founder 501(c)3
- Stonyfield Yogurt, Consultant
- I will not discuss the off-label use of any medications
- I will be discussing kale and dark chocolate

# Warning: Diet Book Author



A Nutritional Prescription for a Sharp Brain,  
Balanced Mood, and Lean, Energized Body

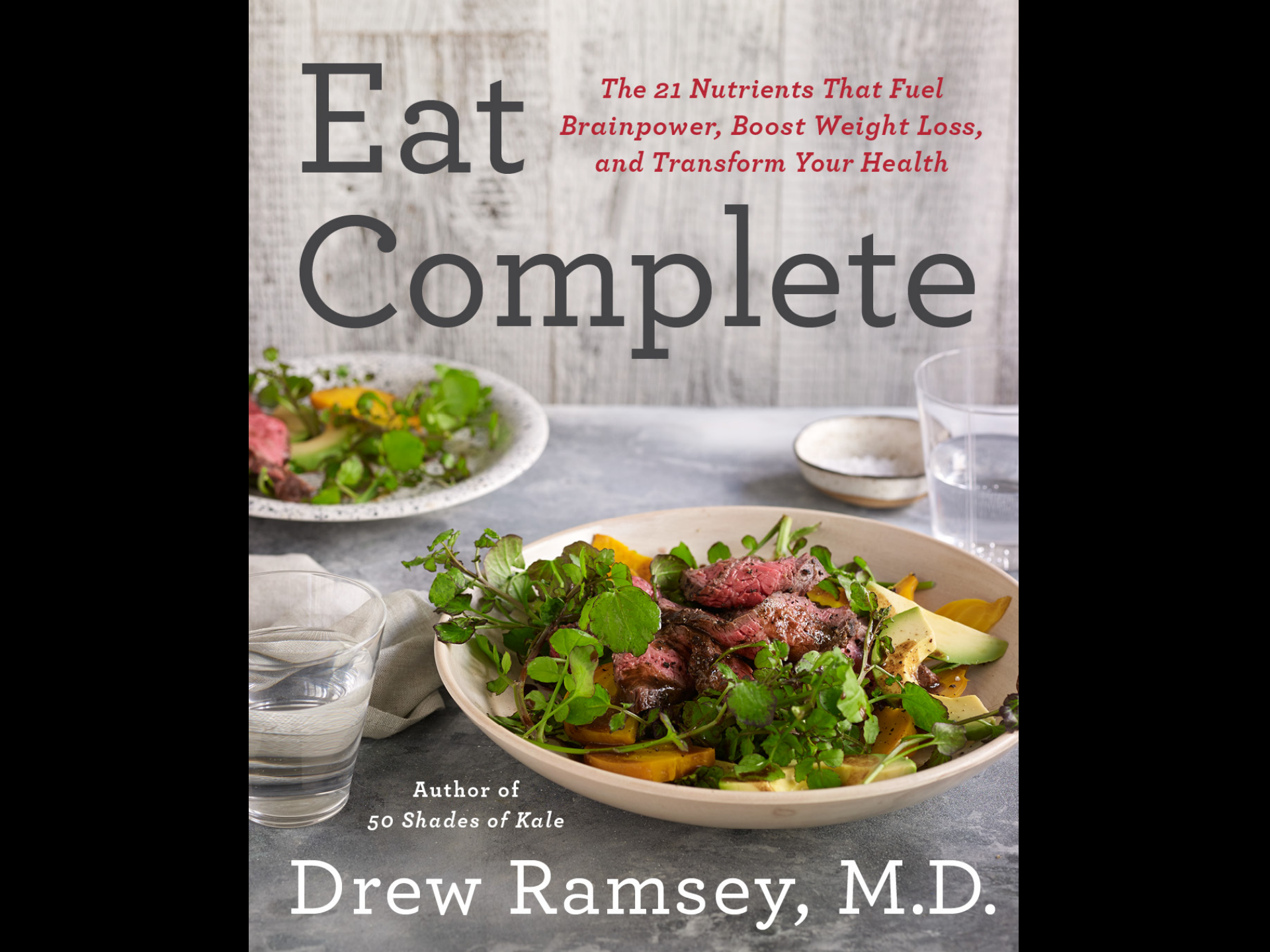
## THE HAPPINESS DIET



"A lively, thorough, and iron-clad case for real food. You will never eat an egg-white omelet or soy protein shake again."

—NINA PLANCK, author of *Real Food* and *Real Food for Mother and Baby*

**Tyler Graham & Drew Ramsey, MD**



# Eat Complete

*The 21 Nutrients That Fuel  
Brainpower, Boost Weight Loss,  
and Transform Your Health*

Author of  
*50 Shades of Kale*

Drew Ramsey, M.D.





My medical equipment.



*Planting 2015 Indiana*

Drew Ramsey, MD

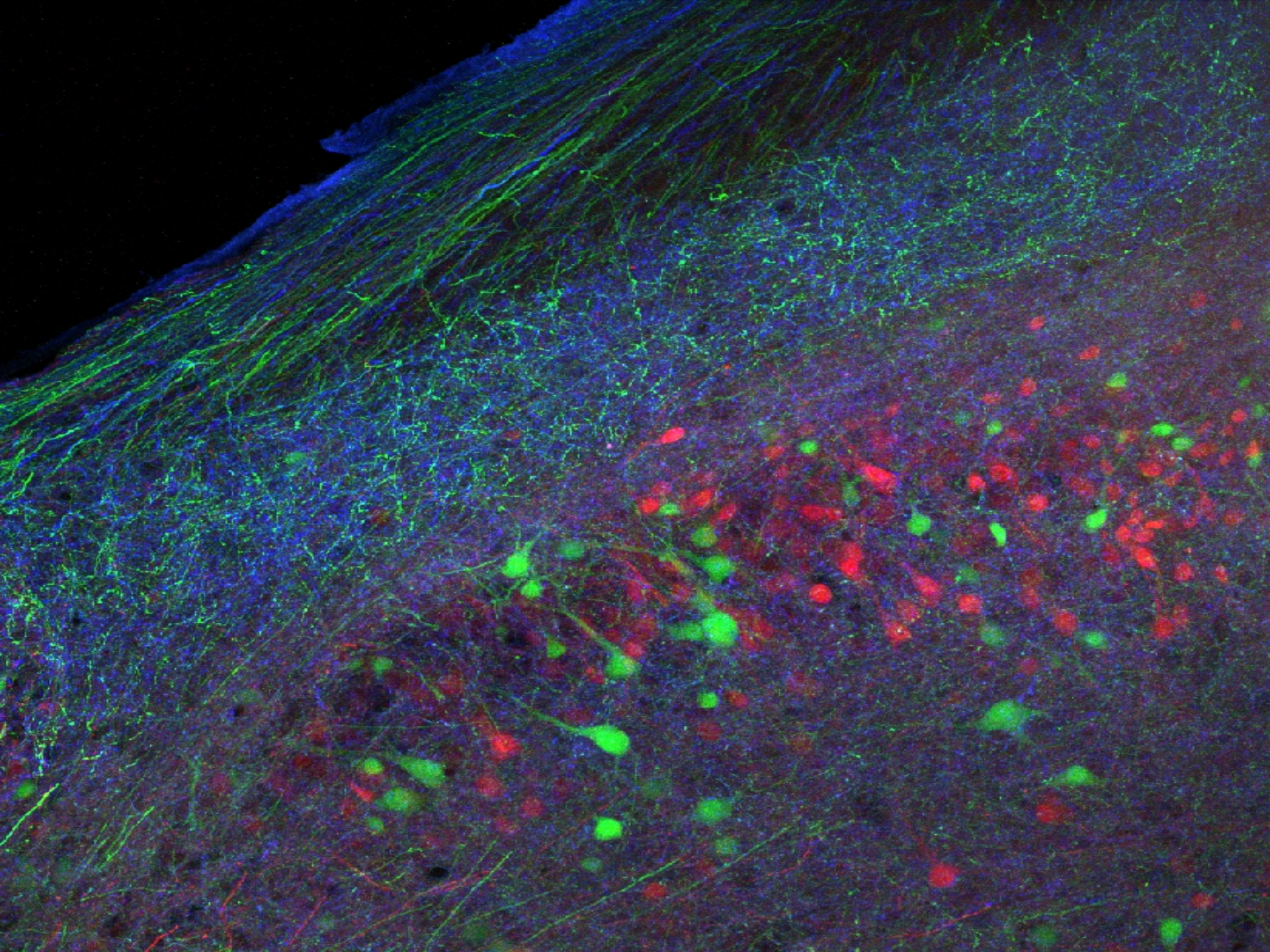


1. Thank You for Feeding Us.

2. Eat Complete to Feed Your Brain.  
*(This is very important.)*

3. How To Be The Next Kale.

4. Pre-Order Eat Complete on Amazon.com. Most people lose 25lbs.







# THE ESSENTIAL 21

## **7 FOR FOUNDATION**

---

1. Omega-3 Fats
2. Zinc
3. Vitamin B<sub>12</sub>
4. Magnesium
5. Vitamin B<sub>9</sub>
6. Good Bugs: Prebiotics  
and Probiotics
7. Complete Proteins

## **7 FOR PROTECTION**

---

1. Vitamin E
2. Vitamin K
3. Vitamin A and  
Carotenoids
4. Phytonutrients:  
The Polyphenols
5. Monounsaturated  
Fats  
(MUFAs)
6. Vitamin D
7. Selenium

## **7 FOR IGNITION**

---

1. Iron
2. Vitamin B<sub>1</sub>
3. Choline
4. Calcium
5. Potassium
6. Iodine
7. Vitamin C



# **Your Brain is Hungry**

**Consumes 420 calories/day**

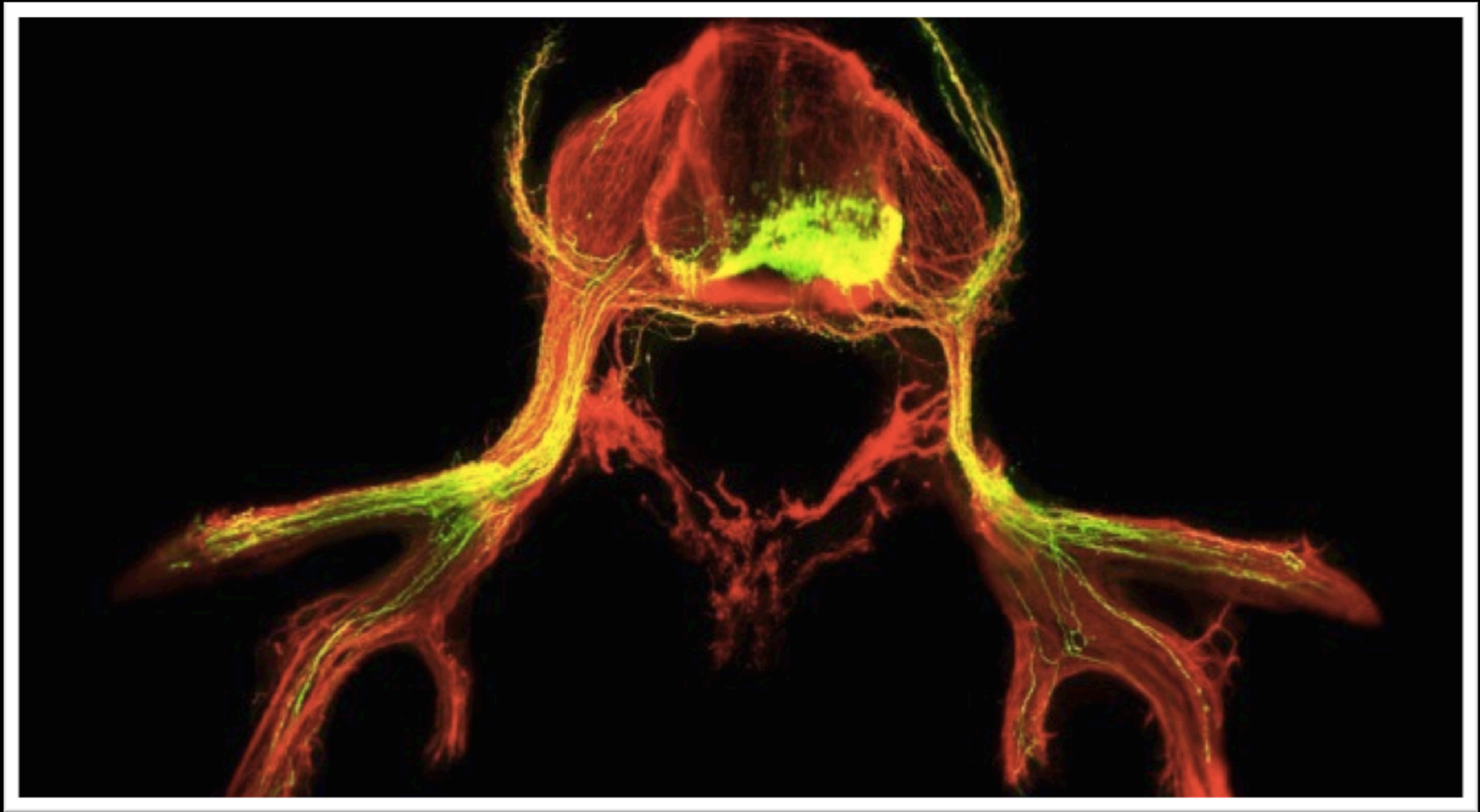
**20% of daily calories**

**Composed of 60% Fat**

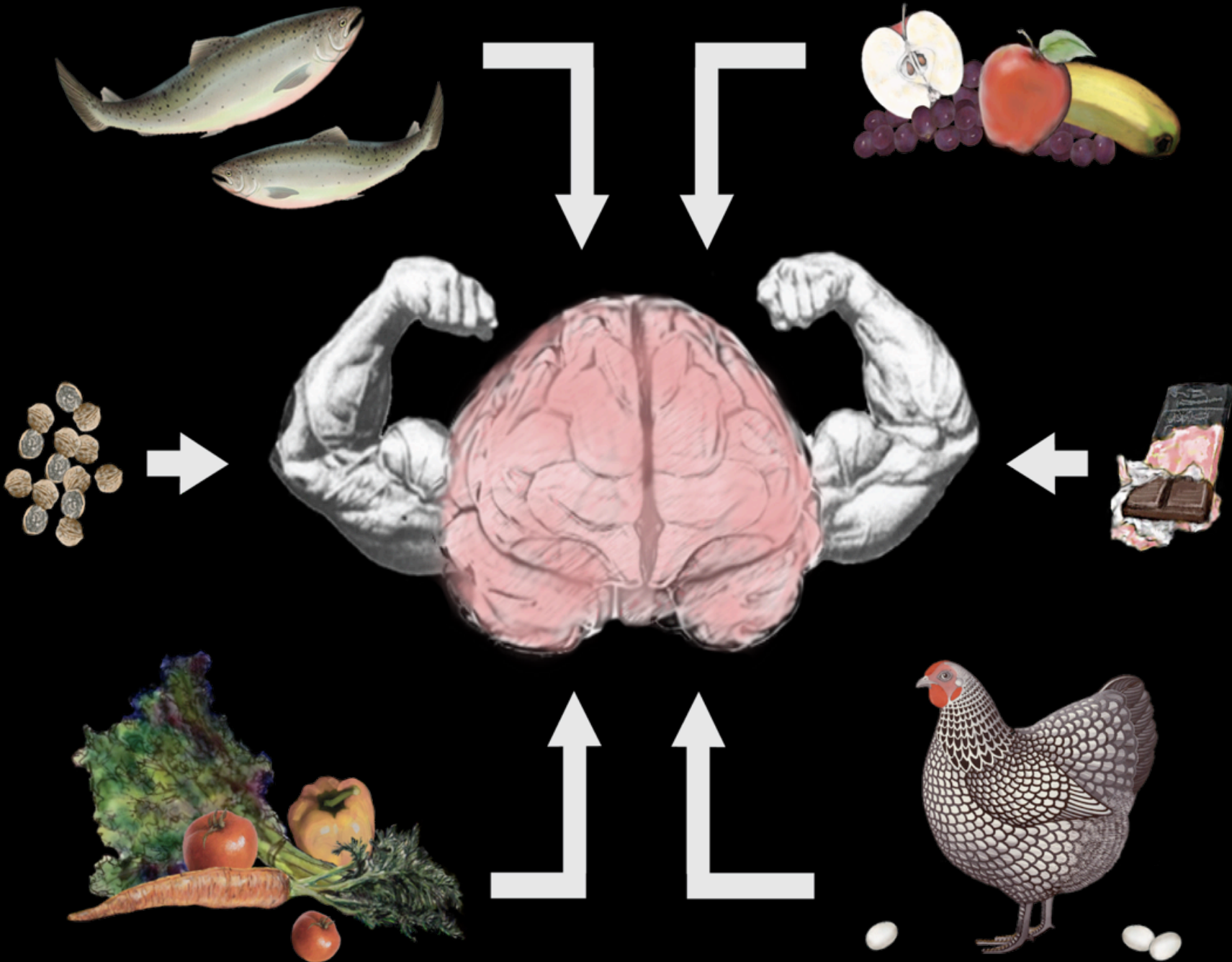
**High concentrations omega-3**

**Largest deposit of cholesterol**

# She's Electric!



Source: Jessel Lab, Columbia University



# A mood by any other name...





# The Pharmacy



SCIENTIFIC AMERICAN  
**MIND**

BEHAVIOR • BRAIN SCIENCE • INSIGHTS

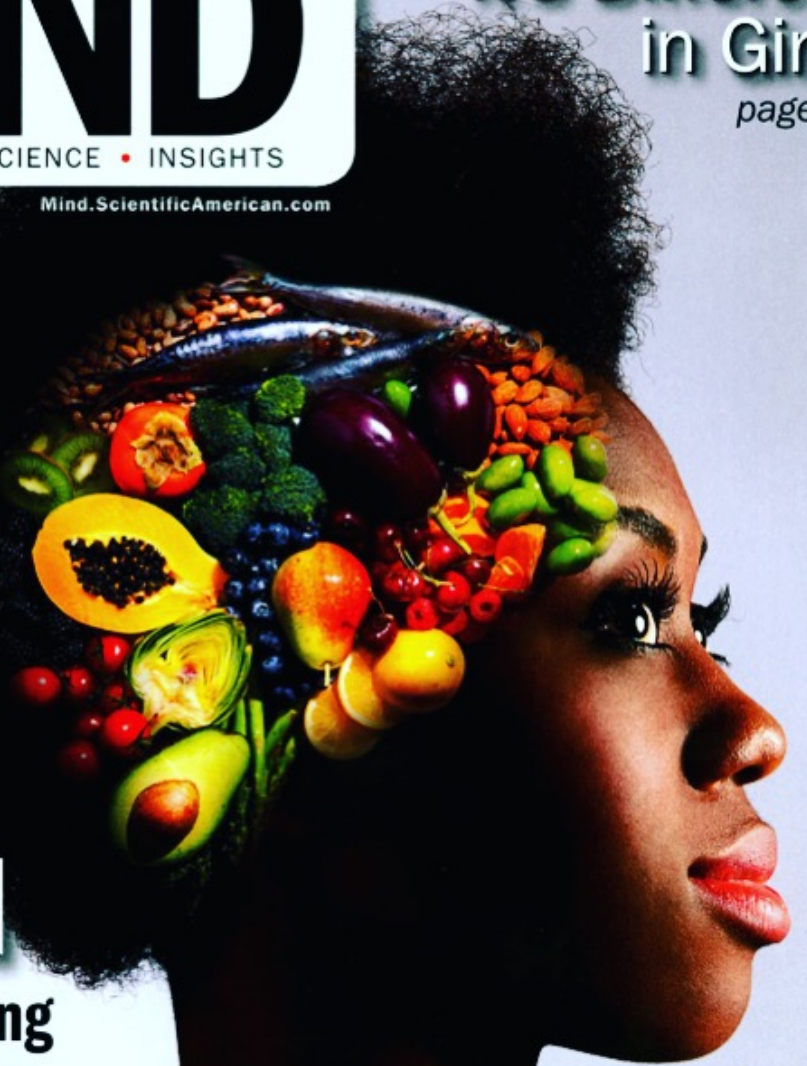
March/April 2016

[Mind.ScientificAmerican.com](http://Mind.ScientificAmerican.com)

**AUTISM:**  
It's Different  
in Girls  
*page 48*

**THE  
BEST  
DIET  
FOR  
YOUR  
BRAIN**

**Optimal Eating  
to Stay Happy  
and Sharp**



**Reading between  
the "Likes"  
What Social Media  
Reveals about Us**

"...the absolute authority on proper meal planning."

—Robyn Webb, MS



3rd Edition

# Diabetes Meal Planning Made Easy

Making smart food choices for a healthier you

Hope S. Warsaw, MMSc, RD, CDE, BC-ADM

American Heart Association®  
*Learn and Live™*



# HEART HEALTHY RECIPES



Brought to you by



Masole es un orgulloso patrocinador del Programa Conozca Su Corazón.



# WHAT TO EAT

*During Cancer Treatment*

100 GREAT-TASTING, FAMILY-FRIENDLY RECIPES TO HELP YOU COPE

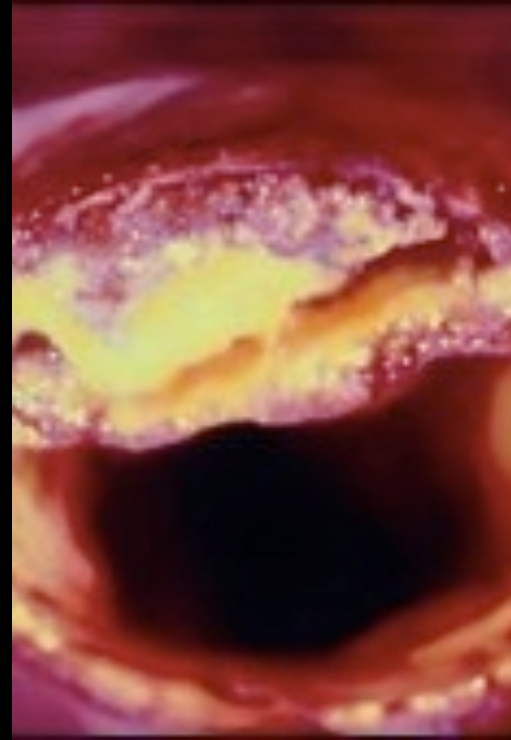


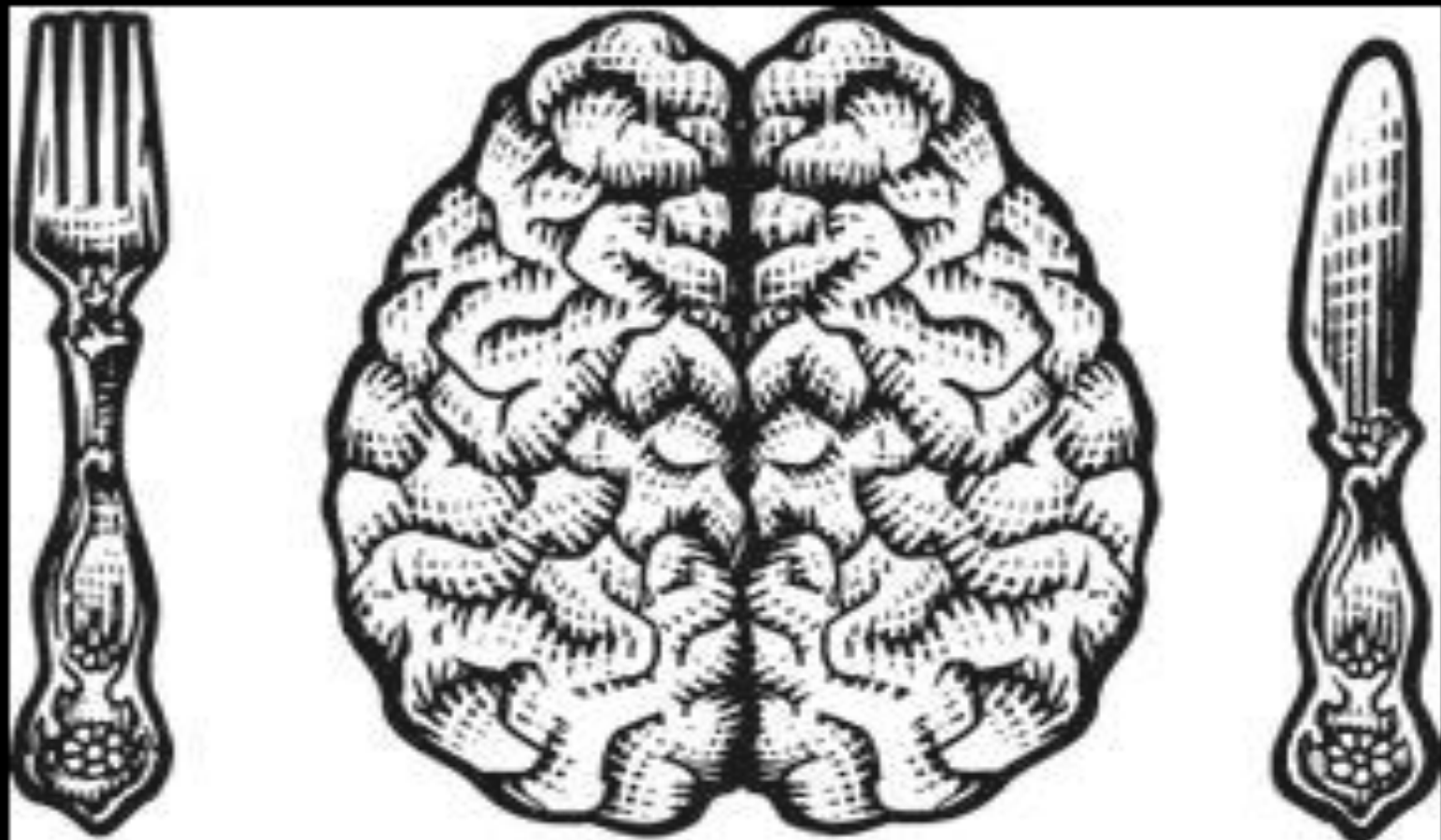
Jeanne Besser | Kristina Rolley, RD, CSO, LDN | Sheri Knecht, RD, CSO, CNSD, LDN | Michèle Sotofonak, MS, RD, CSO, LDN



**“I Eat a Healthy Diet.....”**

**Count Calories  
No Cholesterol  
Avoid Fat  
No Red Meat**





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# THE LANCET Psychiatry

---

## Nutritional medicine as mainstream in psychiatry



*Jerome Sarris, Alan C Logan, Tasnime N Akbaraly, G Paul Amminger, Vicent Balanzá-Martínez, Marlene P Freeman, Joseph Hibbeln, Yutaka Matsuoka, David Mischoulon, Tetsuya Mizoue, Akiko Nanri, Daisuke Nishi, Drew Ramsey, Julia J Rucklidge, Almudena Sanchez-Villegas, Andrew Scholey, Kuan-Pin Su, Felice N Jacka, on behalf of The International Society for Nutritional Psychiatry Research*

“Although the determinants of mental health are complex, the emerging and compelling evidence for nutrition as a crucial factor in the high prevalence and incidence of mental disorders suggests that diet is as important to psychiatry as it is to cardiology, endocrinology, and gastroenterology.”

## Treatment in Psychiatry

# Coaching in Healthy Dietary Practices in At-Risk Older Adults: A Case of Indicated Depression Prevention

Sarah T. Stahl, Ph.D.

Steven M. Albert, Ph.D.

Mary Amanda Dew, Ph.D.

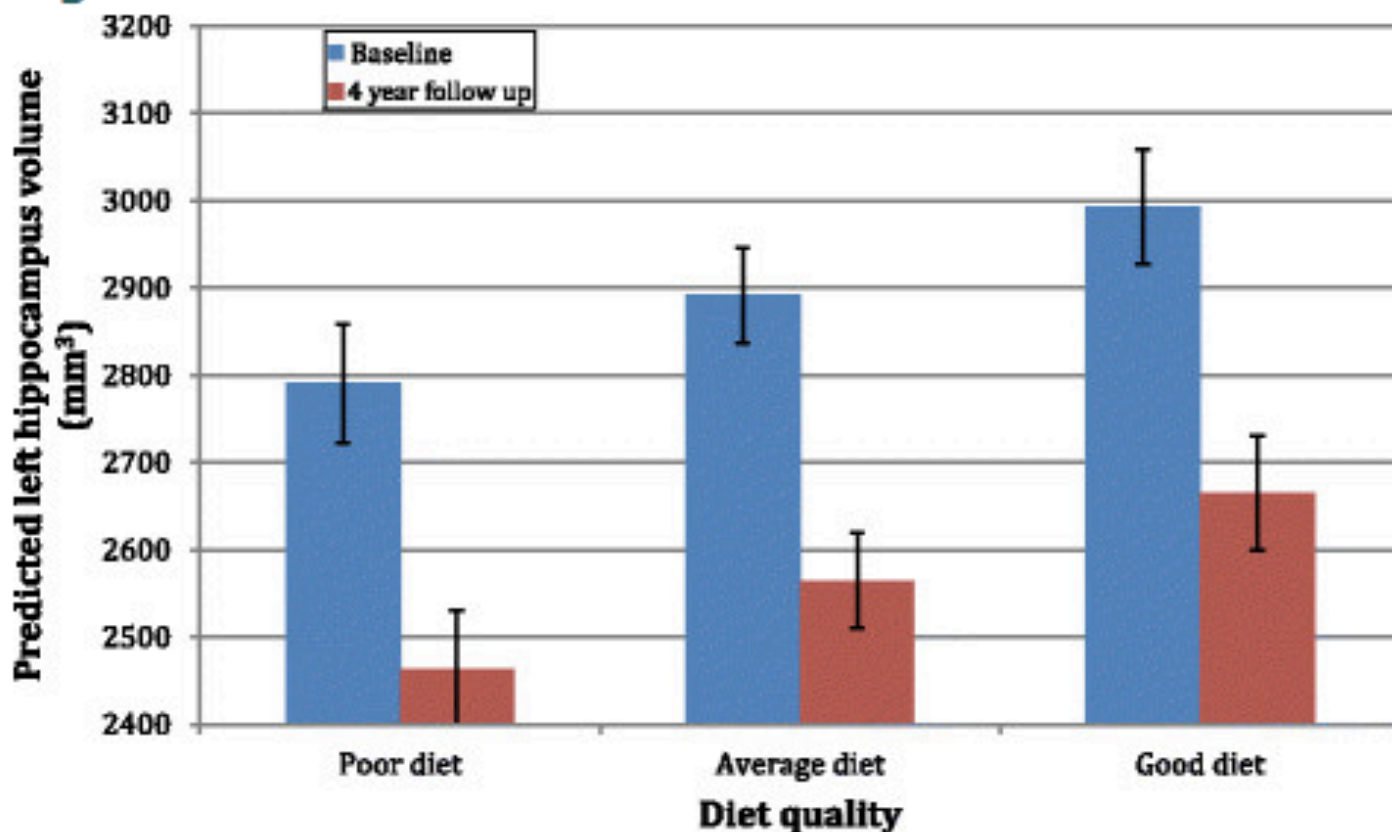
Michael H. Lockovich, L.C.S.W.

Charles F. Reynolds, III, M.D.

Prevention of major depressive disorder is an important because only part of the population is at risk. The program within the healthy choices, meal planning, cost N= 95 (77% completion 2 year study) 40-50% Reduction Depression Symptoms Beck 9.9 → 5.9

Using evidence-based interventions for depression prevention, the authors found that coaching in healthy dietary practices was potentially effective in protecting at-risk older adults from developing incident episodes of major depression. The authors describe the dietary coaching program (highlighted in a case example) as well as the feasibility and why lifestyle interventions like coaching in healthy dietary practices may hold promise as effective, practical, nonstigmatizing interventions for preventing episodes of major depressive disorder in older adults with sub-syndromal depressive symptoms.

*(Am J Psychiatry 2014; 171:499–505)*

**Fig. 1.**

Predicted left hippocampal volume (with standard errors represented by error bars) at baseline and 4-year follow-up for respondents classified with poor, average and good quality diet based on scores on the Western and prudent dietary factor scores (*poor* defined as 1 SD below mean on prudent and 1 SD above mean on Western dietary factor scores; *average* defined as mean/0 on both prudent and Western dietary factor scores; *good* defined as 1 SD above mean on prudent and 1 SD below mean on Western dietary factor scores)

# The Mediterranean Diet

## Does Good Food = Good Mood?

Sánchez- Villegas A et al. *Arch of Gen Psychiatry* 2009



- 10,094 healthy participants
- Followed for 4.4 years
- Mediterranean Dietary Pattern consists of vegetables, fruits and nuts ,olive oil, legumes and fish
- Role in preventing depressive disorders
- 42% Decreased Risk of Depression

# A Smarter, Happier Planet?

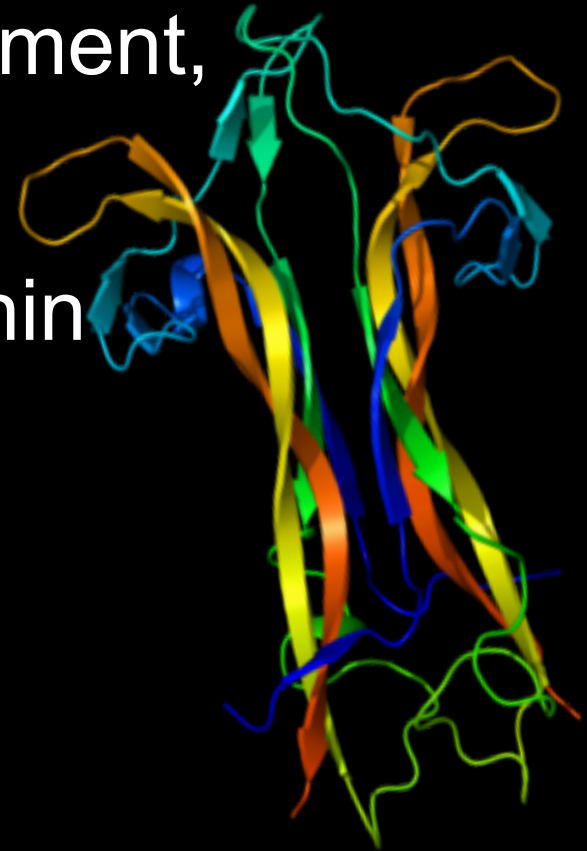
- Intake of iron determine IQ – 13% smarter
- Iodine deficiency is the top cause worldwide of mental retardation – 37% of American women 18-44 don't meet the RDA
- 75% of people in India have a deficiency of a major mood regulating nutrient (B12, B9, etc.)
- The Risk of Depression, Dementia, ADHD, and Anxiety of strongly correlated with diet.

# Brain-Derived Neurotrophic Factor (BDNF)

- Promotes neuron development, function, and survival
- Most abundant neurotrophin
- BDNF & it's TrkB receptor

Everywhere!

**BRAIN GROW!**





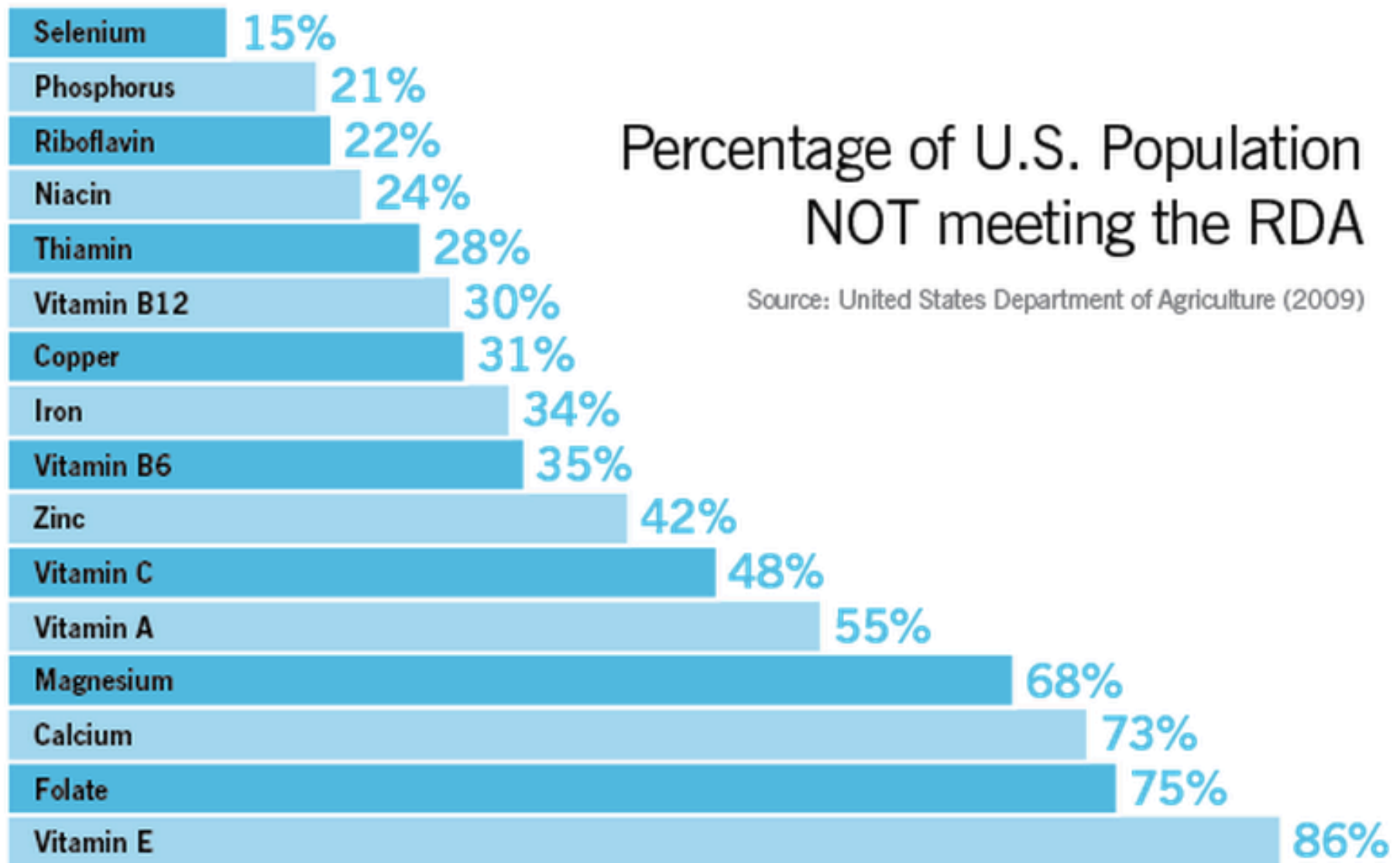
# Dietary Change in last 100 years



- Whole Food to Processed
- ↑ Sugar and Refined Carbs
- Animal to Vegetable Fats
- Omega-3 to Omega-6
- New Molecules: Food Dyes, Preservatives, Trans-fats

## Percentage of U.S. Population NOT meeting the RDA

Source: United States Department of Agriculture (2009)



# A tale of two diets....

## Whole Food



## Processed Food





**Brain  
Food Rx**

# Top Iron Foods (per 100grams)



28mg (155%)



23 mg (129%)



6.1mg (34%)



15mg (83%)



100 gram Chocolate Bar = 11 mg (66%)

**Day 1****Day 2****Day 3**

Breakfast

Biscuit with ham and  
cheese  
Coffee (2 cups)

Nonfat cottage cheese  
Coffee (2 cups)  
Diet Coke

Trader Joe's breakfast  
burrito  
Coffee

Lunch

Chicken salad on a roll  
Diet Coke

Ham and cheese sandwich  
Espresso  
Diet Snapple

Cheese and tomato sandwich  
Diet Coke  
Diet

Dinner

Trader Joe's chicken spring  
roll  
Chicken quesadilla

Pepperoni pizza (at restaurant)  
Iced Coffee  
Diet Coke

Chicken burrito  
Caesar salad  
Ice cream bar

## Day 1

## Day 2

## Day 3

Breakfast

Oatmeal with maple  
syrup and banana  
Apple  
Coffee

Eggs with tomato  
Banana  
Coffee

Oatmeal with Maple  
syrup and blueberries  
Tea

Lunch

Curried tuna salad with  
green beans  
Iced green tea

Spicy salmon sushi roll  
Sweet potato sushi roll  
Miso soup  
Diet Coke

Tomato, mozzarella, and pesto on  
whole grain bread  
Diet Coke  
Diet Snapple

Dinner

Small portion linguine  
with garlic and olive oil  
Clams  
Broccoli

Crab salad  
Small portion pasta  
Iced green tea  
Apple chips

Chicken dumpling soup  
Arugula salad  
Cheese  
Beer



# DAY 1



Breakfast

1 plain bagel



Lunch

Ham sandwich on a plain hero



Snack

1 package of freeze dried ice cream



Dinner

3 pulled pork tacos with corn salsa

# DAY 2



Breakfast

3 scrambled eggs  
blueberry toast with  
avocado



Lunch

2 servings of penne  
arrabbiata



Snack

2 cranberry & white  
chocolate cookies



Dinner

Roasted pork with  
corn & white rice

# DAY 3



Breakfast

Scrambled egg  
whites with 2 English  
muffins



Lunch

1 slice of cheese pizza



Snack

Sour gummy candy

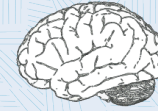


Dinner

Roasted pork  
& potatoes



# Brain Food Prescription™



Goal: Optimal brain health

Dose: Eat at least 3 times per day

Refills: Unlimited

## SEAFOOD

Oysters, wild salmon, mackerel, mussels, anchovies, sardines, herring, rainbow trout, wild shrimp, cod, clams, fish eggs, crab, octopus

TOP NUTRIENTS: B1, B12, Iodine, Omega-3s, Zinc, Protein



## VEGETABLES

Kale, arugula, Brussels sprouts, asparagus, cauliflower, sweet potatoes, onions, blue potatoes, carrots, celery, mustard greens, mesclun, beets with greens, cabbage, broccoli, sprouts, butternut squash, bell peppers

TOP NUTRIENTS: Vitamin A, Vitamin C, Fiber, Folate, Phytonutrients



## NUTS & SEEDS

Walnuts, almonds, cashews, pecans, pumpkin seeds, chia seeds, Brazil nuts, macadamia nuts, flax seeds, sunflower seeds, pine nuts

TOP NUTRIENTS: B1, Vitamin E, Iron, Magnesium, Zinc



## FRUITS

Apples, blueberries, raspberries, oranges, grapefruit, tomatoes, cherries, watermelon, avocados, pears, lemons, strawberries, mango, cacao nibs, kiwi, cantaloupe, limes, apricots, peaches

TOP NUTRIENTS: Vitamin A, Vitamin C, Fiber, Folate, Potassium



## GRAINS & LEGUMES

Lentils, quinoa, black beans, red beans, wheat germ, pinto beans, garbanzo beans, hummus, steel-cut oats, brown rice, black-eyed peas, peanuts

TOP NUTRIENTS: Iron, Folate, Fiber, Magnesium, Phytonutrients, Protein

## MEAT

Grassfed beef & lamb, pasture-raised pork, free-range chicken & turkey, venison, bison, rabbit, goat

TOP NUTRIENTS: B1, B3, B12, Iron, Zinc, Protein



## DAIRY & EGGS

Grassfed yogurt, grassfed milk, grassfed cheeses, farm fresh eggs, goat cheese, blue cheese, kefir, feta cheese

TOP NUTRIENTS: B2, B12, Calcium, Phosphorus, Zinc, Protein



## HERBS & SPICES

Turmeric, garlic, black pepper, sea salt, cinnamon, cocoa, ginger, chili flakes, chili pepper, oregano, parsley, cilantro, rosemary, basil

TOP NUTRIENTS: Vitamin A, Vitamin C, Calcium, Iron, Vitamin K

## BEVERAGES

Water, mineral water, green tea, herbal tea (mint, holy basil, rooibos, chai), hot cocoa, coffee, vegetable juices, flavored seltzer, grassfed milk

TOP NUTRIENTS: Vitamin A, Vitamin C, Calcium, Phosphorus, Phytonutrients

## DESSERTS

Dark chocolate, nut tortes, macaroons, Greek yogurt with maple syrup and fruit, whole grain cookies (oats), dried fruit

TOP NUTRIENTS: B2, B12, Calcium, Fiber, Phytonutrients Zinc



# The Brain Food Scale

B12 + B9 + LC-PUFA + Fe + Zn  
B1 + Mg + Vit C + Fiber

---

100 Calories

# The Brain Food Scale

B12+B9+EPA+DHA+Fe+ZN+ Mg+Vit C+Fiber+VitE

---

Calories

## Top Animals

1. Oysters
2. Clams
3. Spleen
4. Liver
5. Mussels
6. Poultry GIBLETS
7. Crab
8. Octopus
9. Fish Eggs
10. Kidney
11. Elk
12. Herring

## Top Plants

1. M
2. S
3. R
4. C
5. R
6. B
7. L
8. S
9. B
10. A
11. D
12. K



- Top Plants

1. MAROON CARROTS!!!
2. Spinach
3. Red Cabbage
4. Cauliflower
5. Red Pepper
6. Broccoli
7. Lemon
8. Strawberry
9. Brussels Sprouts
10. Asparagus
11. Dandelion Greens
12. Kale

Eat Complete GOALS:

More Rainbow Plants

Brain Nutrient Density

Sensible Seafood

Eat Whole Foods

Cook and Eat Together.

# Seafood

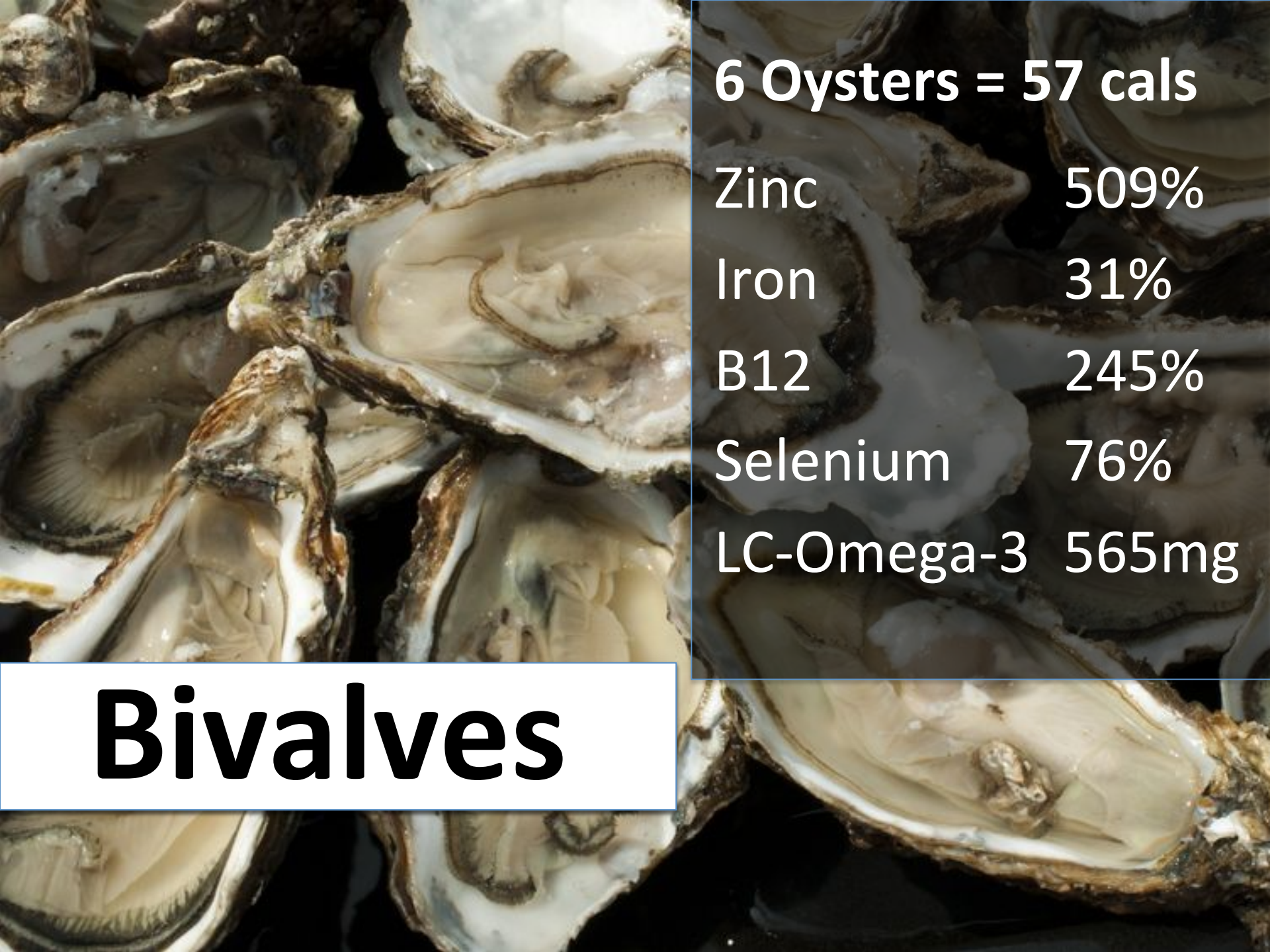
- Omega-3 Fatty Acids
- B12
- Vitamin D
- Zinc
- Iodine
- Chromium



How many calories are in 6 oysters?



57



**6 Oysters = 57 cal**

**Zinc 509%**

**Iron 31%**

**B12 245%**

**Selenium 76%**

**LC-Omega-3 565mg**

**Bivalves**

# Top Nutrients Mussels

## Nutrition Facts

Serving Size 3 oz (5-6 mussels)

### Amount Per Serving

Calories 146

% Daily Value\*

### Fats

Omega-3 736mg DHA

Protein 20g

### Top Vitamins & Minerals

Iron 32%

Selenium 109%

B12 340%

\*Percent Daily Values are based on a 2,000 calorie diet. Your daily values may vary depending on your health and activity level.



# GOING FOR THE BEST



## H. C. ROWE & CO.

Have over 600 Acres

OF THE BEST

### NATIVE OYSTER GROUND,

AND FURNISH THE

## BEST OYSTERS

In the country, in Shell or Opened.

Address,

**H. C. ROWE & CO.**

Cultivators, Wholesalers, and Shippers of Oysters,

**FAIR HAVEN, CT.**

"The Sunbeam" Publishing Co., 28, 30 & 32 Centre Street, N. Y.

We are bound to our bodies like an oyster is to its shell.

~ Plato



→ 23



Photo by  
Ellen Silverman



Photo by  
Ellen Silverman











**Kale**





**Slim Your Waistline & Entice Your Taste Buds**

# **50 SHADES OF KALE**



**Delicious & Nutritious Kale Recipes  
How To Cook Kale Salad, Kale Chips,  
Kale Soup**

**DREW RAMSEY MD & JENNIFER ISERLOH**

# The Rise of Kale

- **1996** The *Los Angeles Times* publishes a poem dedicated to the leafy green, entitled *Oh Kale*
- **2001** Bo Mueller-Moore 1<sup>st</sup> Eat More Kale T-shirt
- **2008** *Whole Living* deems kale a “powerfood”
- **2008** 539 babies in the US were [named Kale](#)
- **2009** – Brad’s Raw Food Kale Chips Launched
- **2010** The kale salad at Northern Spy in New York City inspires a New York Times [kale salad recipe](#)
- **Archeological Evidence Kale Eaten in Ancient Rome**



# The Rise of Kale

- **2012** *Bon Appétit* names this the year of kale
- **2013** The first annual **National Kale Day**
- **2014** **Kale Backlash Begins**
- **2015** Kale served to 650,000 students in 2500 public school on National Kale Day
- **2016** McDonalds serving Kale



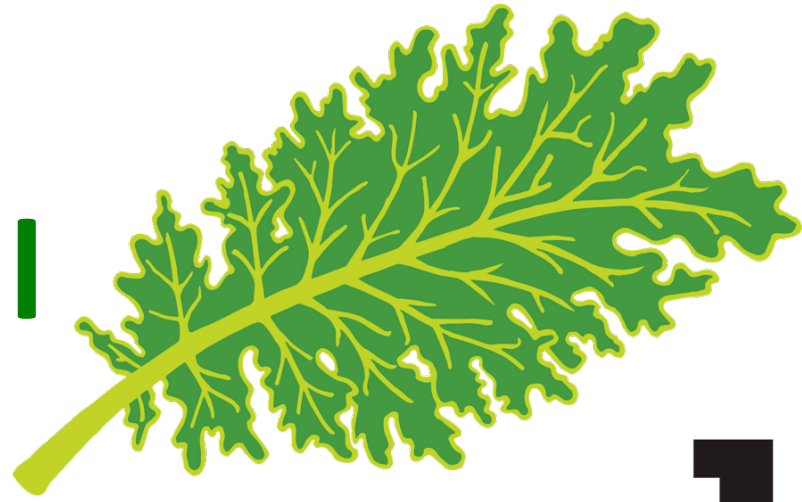
# McDonald's Shows Kale's Mainstream Madness



# Queen Bey and the King of Greens



4<sup>th</sup> Annual



# National Kale Day

October 5, 2016

[NationalKaleDay.org](http://NationalKaleDay.org)





# Ditch the breadcrumbs... the best duck food's kale! Experts reveal we should be feeding superfood to mallards to keep them trim

By Katie Strick For The Daily Mail

01:57 28 Mar 2016, updated 08:00 28 Mar 2016



SIDNEY & LOIS ESKENAZI HOSPITAL







# New Item Acceptance Survey

Food Item: DAY#3: Greek Salad, Chickpeas, Quionoa

Please fill out so we can better serve your needs!

This item was visually appealing.	<input checked="" type="radio"/> YES	<input type="radio"/> NO	<input type="radio"/> Neutral
This item was flavorful.	<input checked="" type="radio"/> YES	<input type="radio"/> NO	<input type="radio"/> Neutral
I would purchase this if it was available.	<input checked="" type="radio"/> YES	<input type="radio"/> NO	<input type="radio"/> Neutral
Overall, this is a flavorful food item that I enjoyed tasting.			

1	2	3	4	5
strongly agree	agree	neutral	disagree	strongly disagree

Comments (please provide comments on current tasting item only)

YUM!

+ Happy Dance

Thank you for your participation!

# *The Rule of Kale*

BRAIN FOOD

Nutrient Density

Flexibility

Availability

# KALE FACTS

1 SERVING = 33 CALORIES!



VITAMIN A	206%
VITAMIN C	134%
VITAMIN K	684%
MANGANESE	26%
IRON	6%
CALCIUM	10%
FIBER	5 G
OMEGA-3S	121 MG

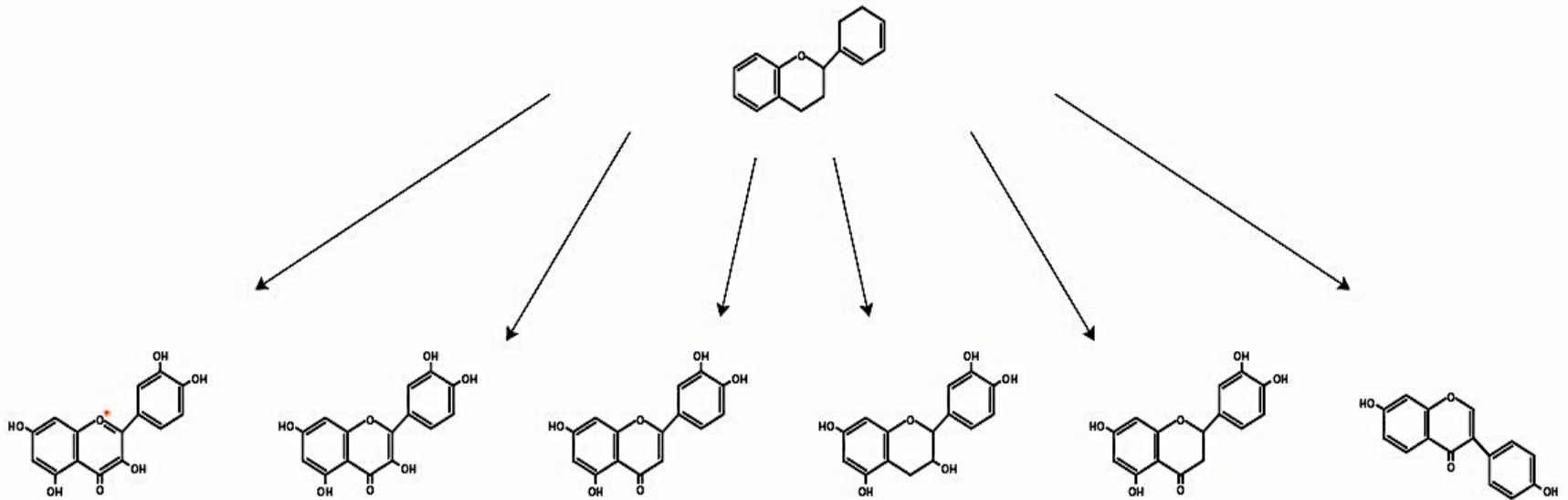
#NATIONALKALEDAY

[WWW.NATIONALKALEDAY.ORG](http://WWW.NATIONALKALEDAY.ORG)





# The Flavonoids



## ANTHOCYANINS

Cyanidin  
Pelargonidin



Sources: berries, blueberries, blackberries, blood orange

## FLAVONOLS

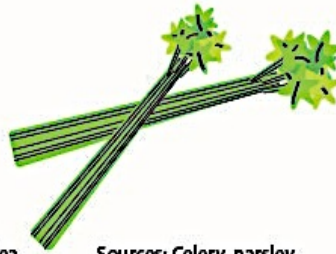
Quercetin  
Kaempferol



Sources: Onion, brocoli, tea, apples

## FLAVONES

Apigenin  
Luteolin



Sources: Celery, parsley, tangerines

## FLAVANOLS

Epicatechins  
Procyanidins



Sources: Cocoa, green tea, red wine

## FLAVANONES

Hesperetin  
Naringenin



Sources: Citrus fruits

## ISOFLAVONES

Daidzein  
Genistein  
Glycitein



Sources: soy beans, fermented soy products

# Mechanistic Effects of Flavonoids

- Blueberry, citrus, and green tea flavonoids shown to increase BDNF
- Flavonoids derived from cocoa and onion shown to decrease inflammatory cytokines



# Rainbow Colors = Phytonutrients



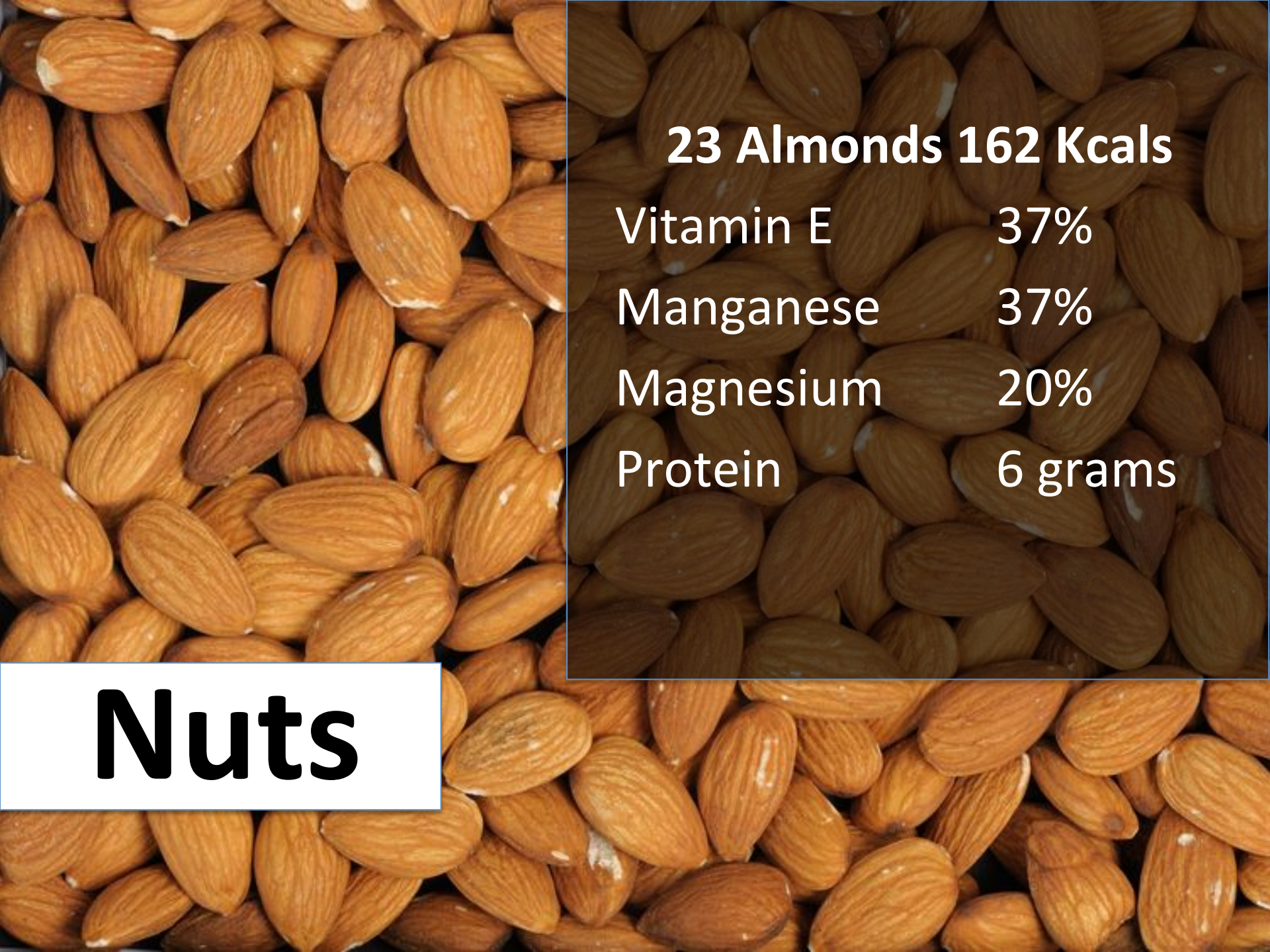












**23 Almonds 162 Kcals**

Vitamin E 37%

Manganese 37%

Magnesium 20%

Protein 6 grams

**Nuts**

# The Mystery of Nuts



- Walnuts
- Almonds
- Pecans
- Flax Seeds
- Chia Seeds
- Brazil Nuts
- Pumpkin Seeds
- Sesame Seeds





1 Cup Lentils = 230 cal  
Folate 90%  
Fiber 67%  
Iron 37%  
Protein 18 grams

# Beans & Legumes



# Legumes and Pulses

- Protein
- Fiber
- Phytonutrient (Skin)
- Manganese
- Copper



- Small Reds
- Lentils
- Garbanzo Beans
- Black Beans
- Pinto Beans
- Navy Beans









Photo by  
Ellen Silverman



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Ellen Silverman





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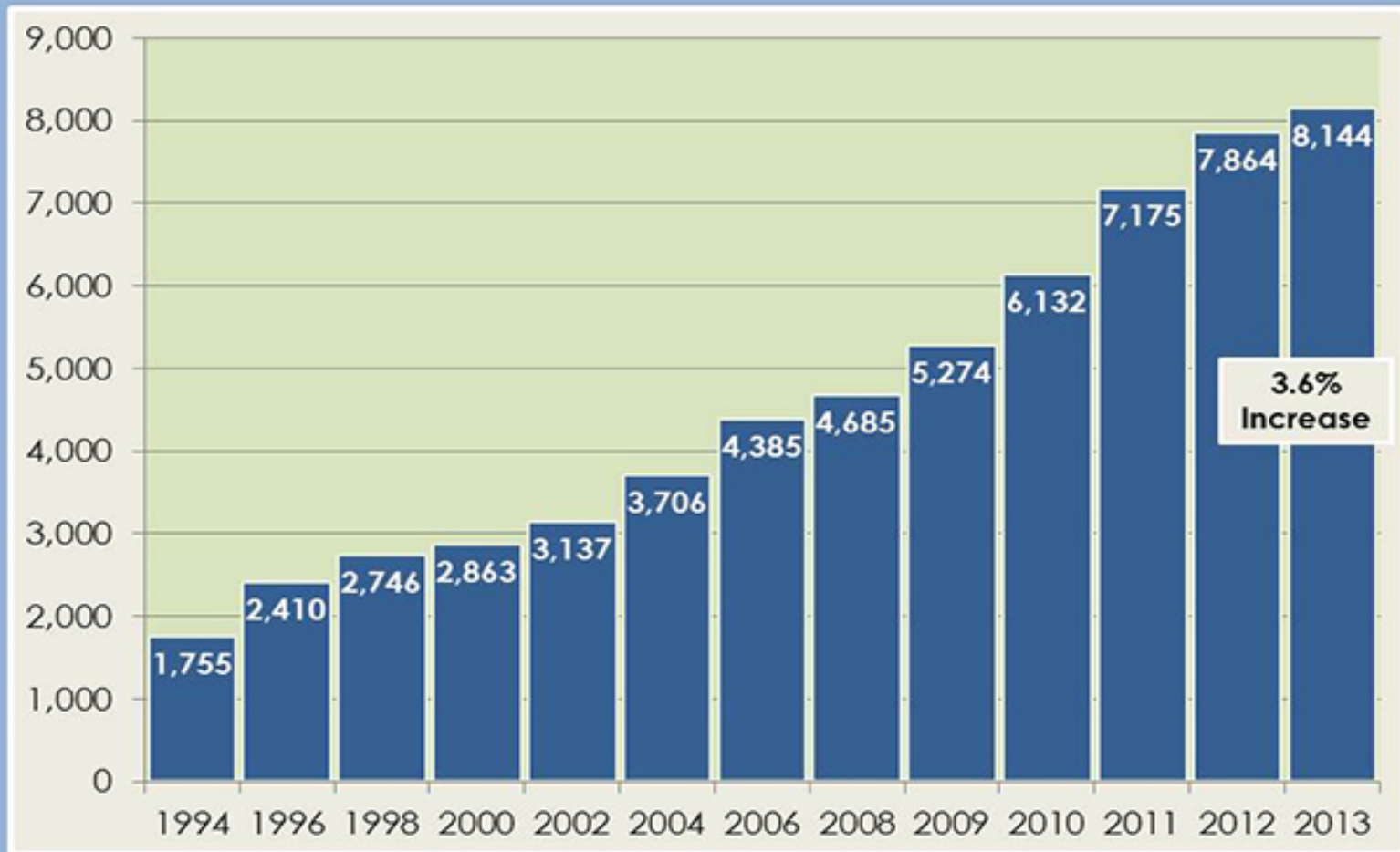
Photo by  
Ellen Silverman



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Ellen Silverman

# Broad Spectrum Medicine

## National Count of Farmers Market Directory Listings



Source: USDA-AMS-Marketing Services Division

Farmers Market information is voluntary and self-reported to USDA-AMS-Marketing Services Division

# #EatComplete #BrainFood

- ◆ *Count Brain Nutrients*
- ◆ *Cut Out Processed Food*
- ◆ *Fix Fats: Omega-3s*
- ◆ *Eat Plants = Phytonutrients*
- ◆ *Move to Complex Carbs*



**Thank You!**

**VivaFresh**

**Texas International  
Produce Association**

**Melinda Goodman**

**Full Tilt**

**Columbia University**

*Department of Psychiatry*

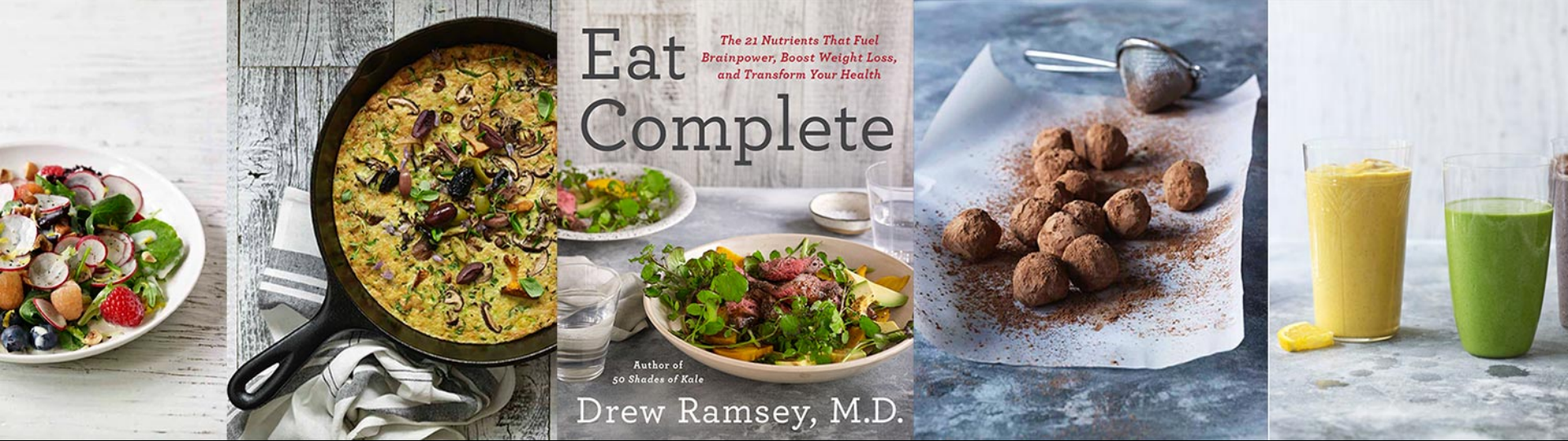
*Inst. Of Human Nutrition*

**Laura Lachance, MD**

**Joy Tutela**

**National Kale Day Staff**

**Harper Wave**



# Feed Your Brain - Eat Complete!

Order Today = Sell More Produce

**KEEP IN TOUCH:**



drewramseymd



@DrewRamseyMD



DrewRamseyMD