Added Sugar: Friend or Foe?

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Eastern Illinois University

Added Sugar Friend or Foe

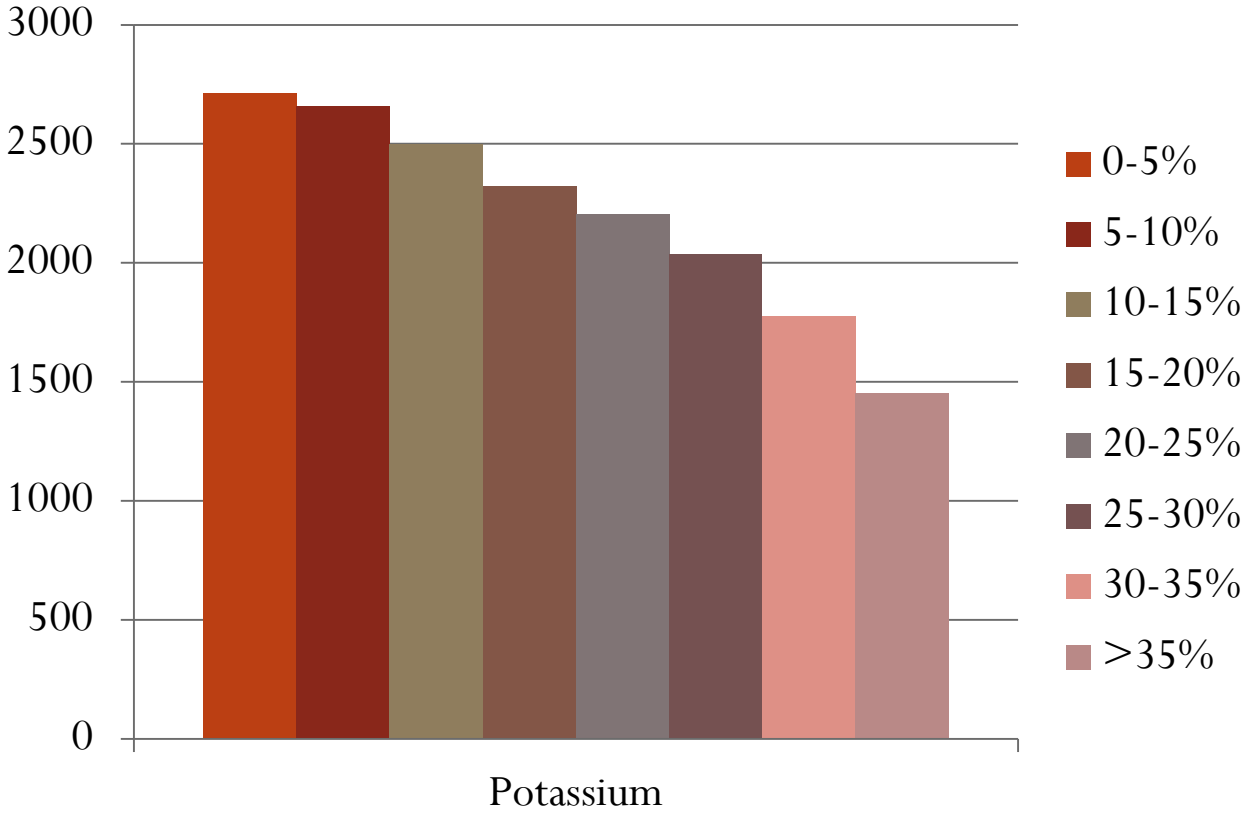
- Dietary recommendations for added sugar
- Sugar added as a friend encouraging nutrient dense foods:
  - Dressing on salads
  - Sweetened milk
- Sugar as a foe
  - When added to nutrient devoid foods
  - When it replaces nutrients
    - Juices
    - Dried fruits
- Replacing sugar with nutrient dense foods

No Upper Limits?? Then I should get to have as much sugar as I want, right??

"Although a UL is not set for sugars, a maximal intake level of 25 percent or less of energy from added sugars is suggested based on the decreased intake of some micronutrients of American subpopulations exceeding the level."

Institute of Medicine of the National Academies , Food and Nutrition Board (2005). *Dietary reference intakes for energy, carbohydrate, fiber, fat, fatty acids, cholesterol, protein, and amino acids*. Washington, D.C. : The National Academies Press.

Reduction in Nutrients as Added Sugar Increases



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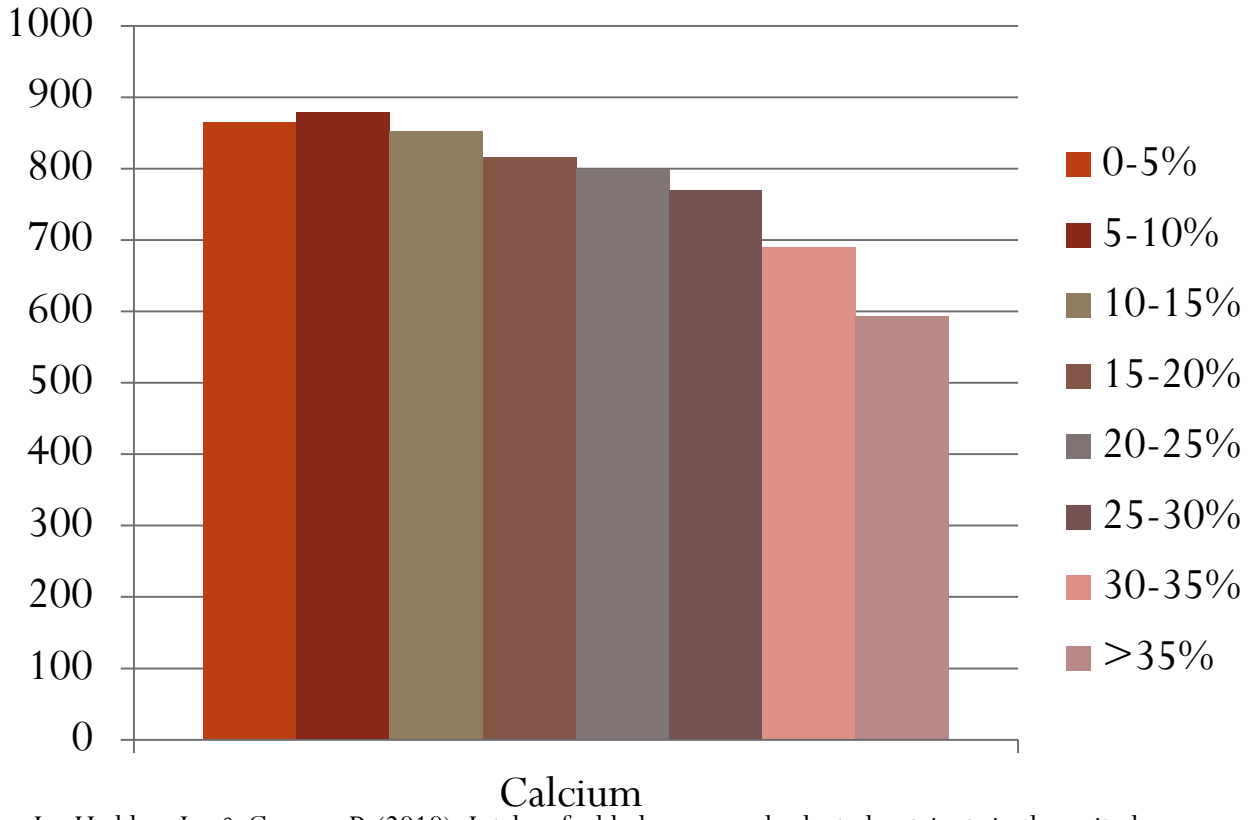

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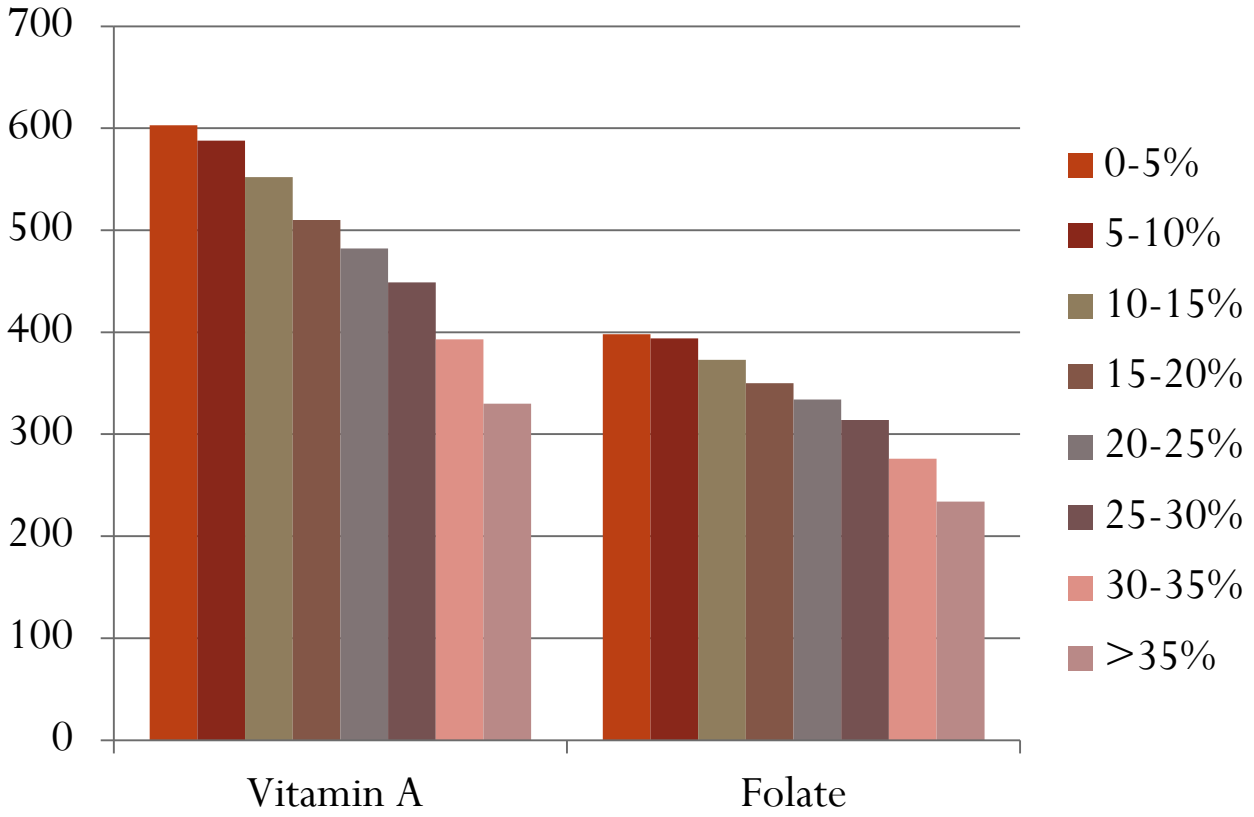

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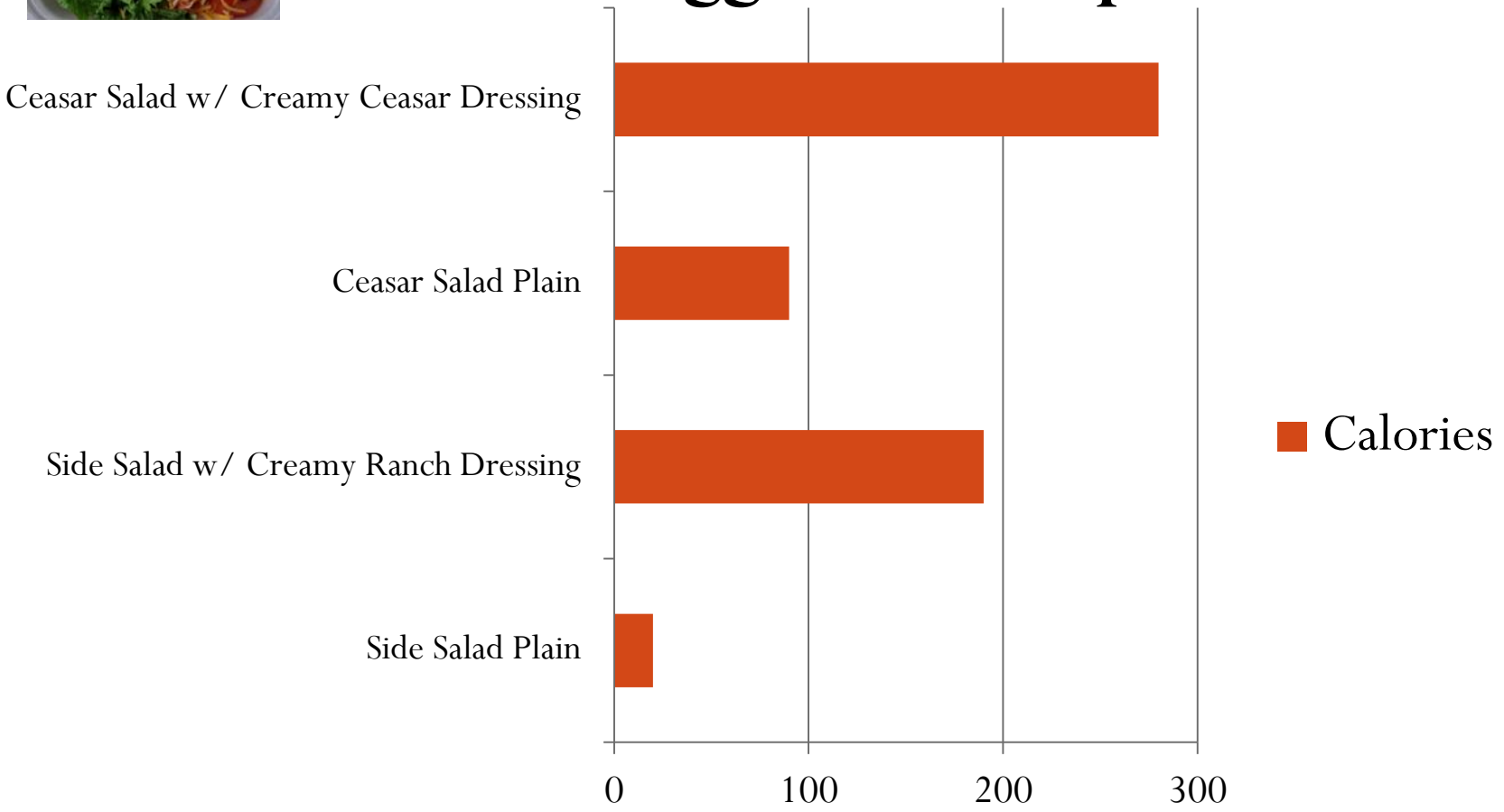
Sugar as a Friend Encouraging Salad and Veggie consumption



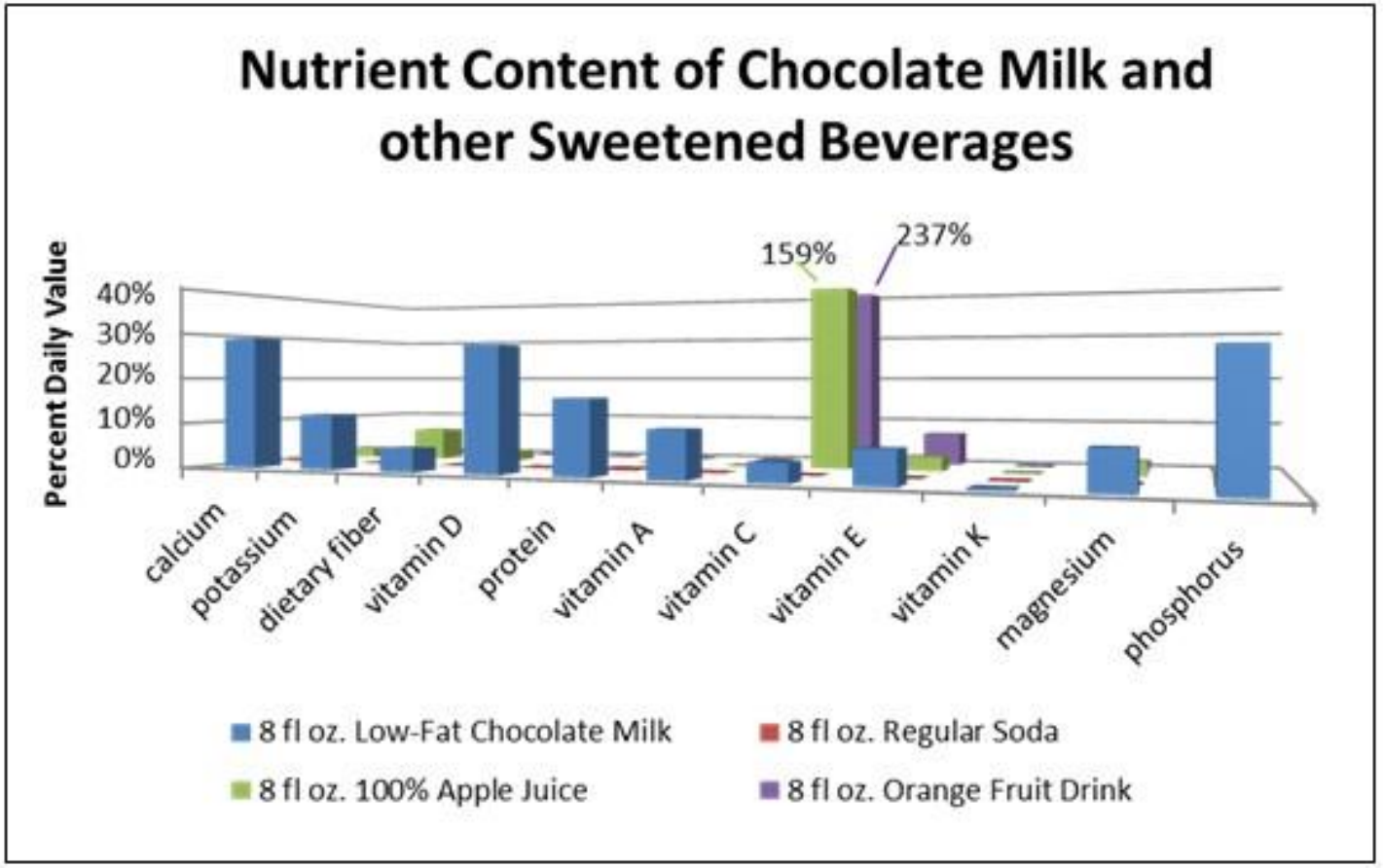
Vegetable	% RDA in 1 NLEA Serving
Tomato (148 g)	Vitamin A: 25% Vitamin K: 14% Vitamin C: 31%
Carrot (85 g)	Fiber: 10% Vitamin K: 10% Vitamin A: 234%
Broccoli (148 g)	Fiber: 15% Vitamin A: 18% Vitamin K: 158% Vitamin C: 220% Riboflavin: 10% B6: 13% Folate: 23% Phosphorus: 10% Manganese: 16% Potassium: 10%

Vegetable	% RDA in 1 NLEA Serving
Potato (Baked with skin, 148 g)	Fiber: 13% Vitamin C: 24% Niacin: 10% B6: 23% Folate: 10% Manganese: 16% Phosphorus: 10% Magnesium: 16% Potassium: 17%
Romaine Lettuce (85g)	Vitamin A: 99% Vitamin K: 107% Vitamin C: 33% Foltae: 29%

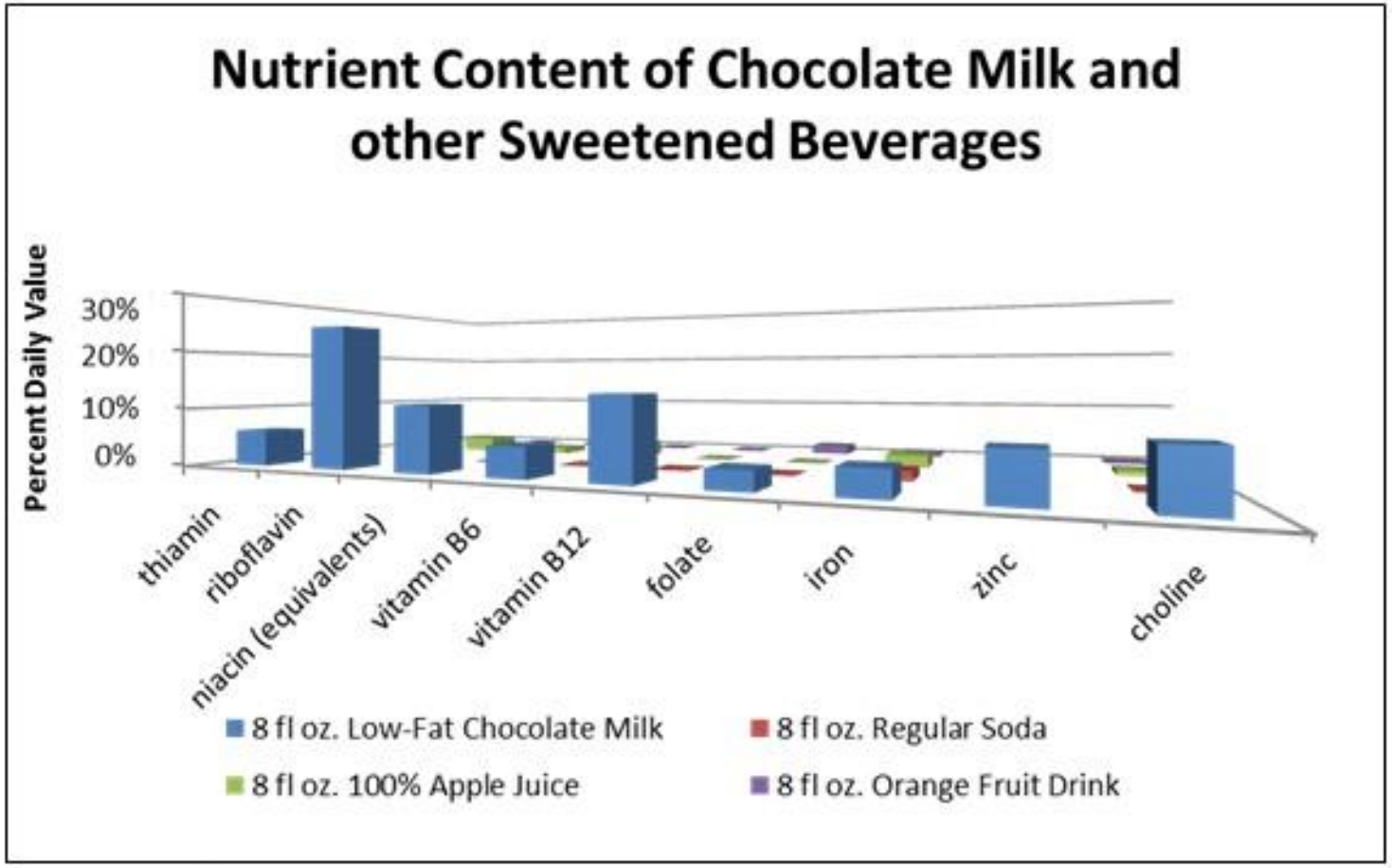
Fruit	% RDA in 1 NLEA Serving
Apple (154g)	Fiber: 15% Vitamin C:12%
Banana (126 g)	Fiber: 13% Vitamin C: 18% B6: 23% Manganese: 17% Potassium: 10%
Orange (1- Medium)	Fiber: 14% Vitamin C: 105%

Fruit	% RDA in 1 NLEA Serving
Pear (166 g)	Fiber: 21% Vitamin C: 12%
Strawberry (147 g)	Fiber: 12% Vitamin: 143% Manganese: 28%

Meat	% RDA
Beef (3 oz, 95% lean, ground, crumbles, pan cooked)	Protein: 50% Riboflavin: 10% Niacin: 31% B6: 18% B12: 37% Iron: 15% Phosphorus: 23% Zinc: 40% Selenium: 26%



Source: USDA Nutrient Database for Standard Reference, Release 24. Orange fruit drink with vitamin C added; 100% unsweetened apple juice with vitamin C added; low-fat chocolate milk with vitamins A and D added



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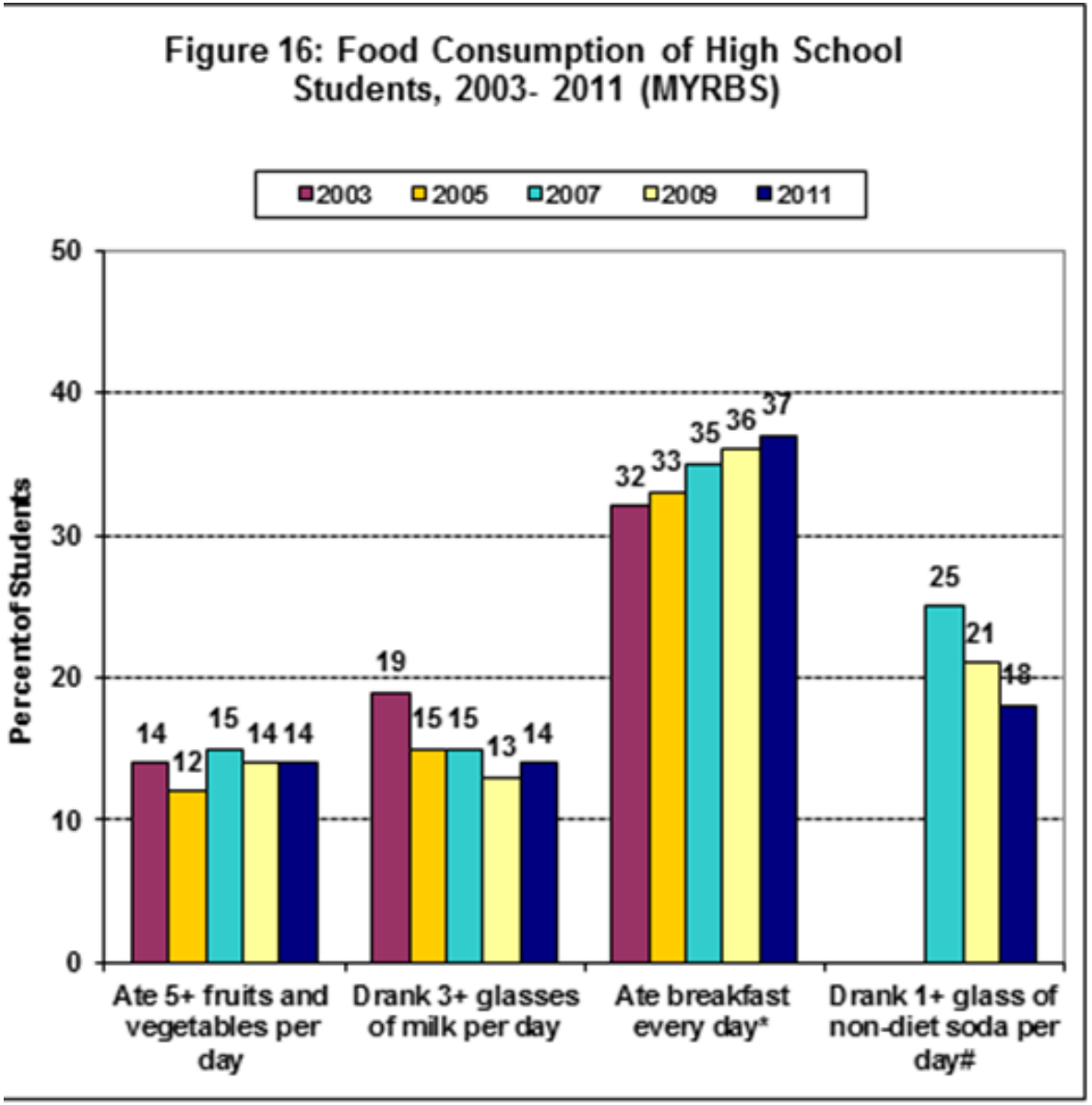
Milk Nutrients

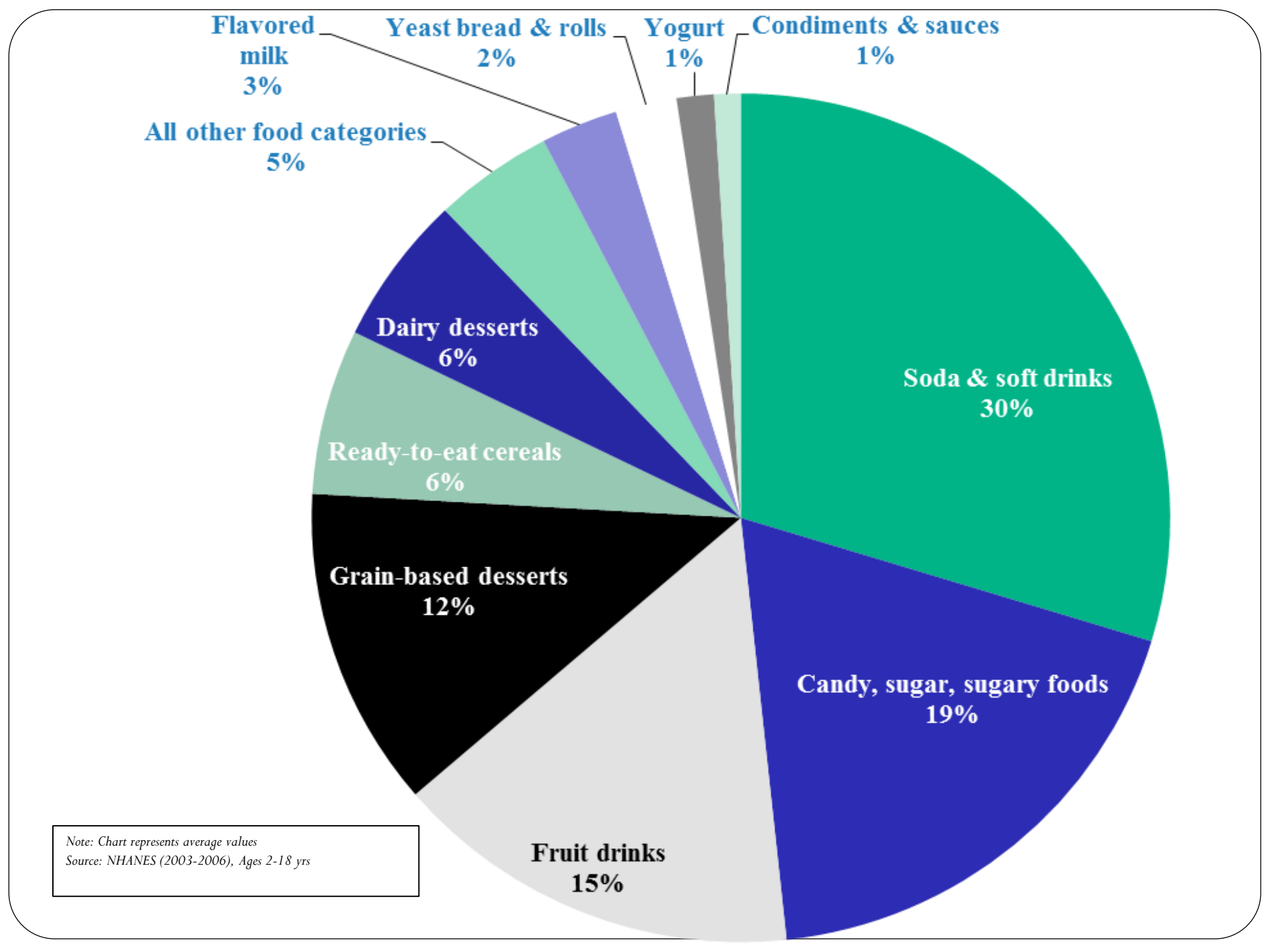
- Children ages 2-8 do not get recommended amount of milk each day.
- Three-fourths of adolescents ages 9-19 do not receive recommended amounts each day.

Figure 16: Food Consumption of High School Students, 2003- 2011 (MYRBS)



Essential Minerals & Daily Intake Through Milk

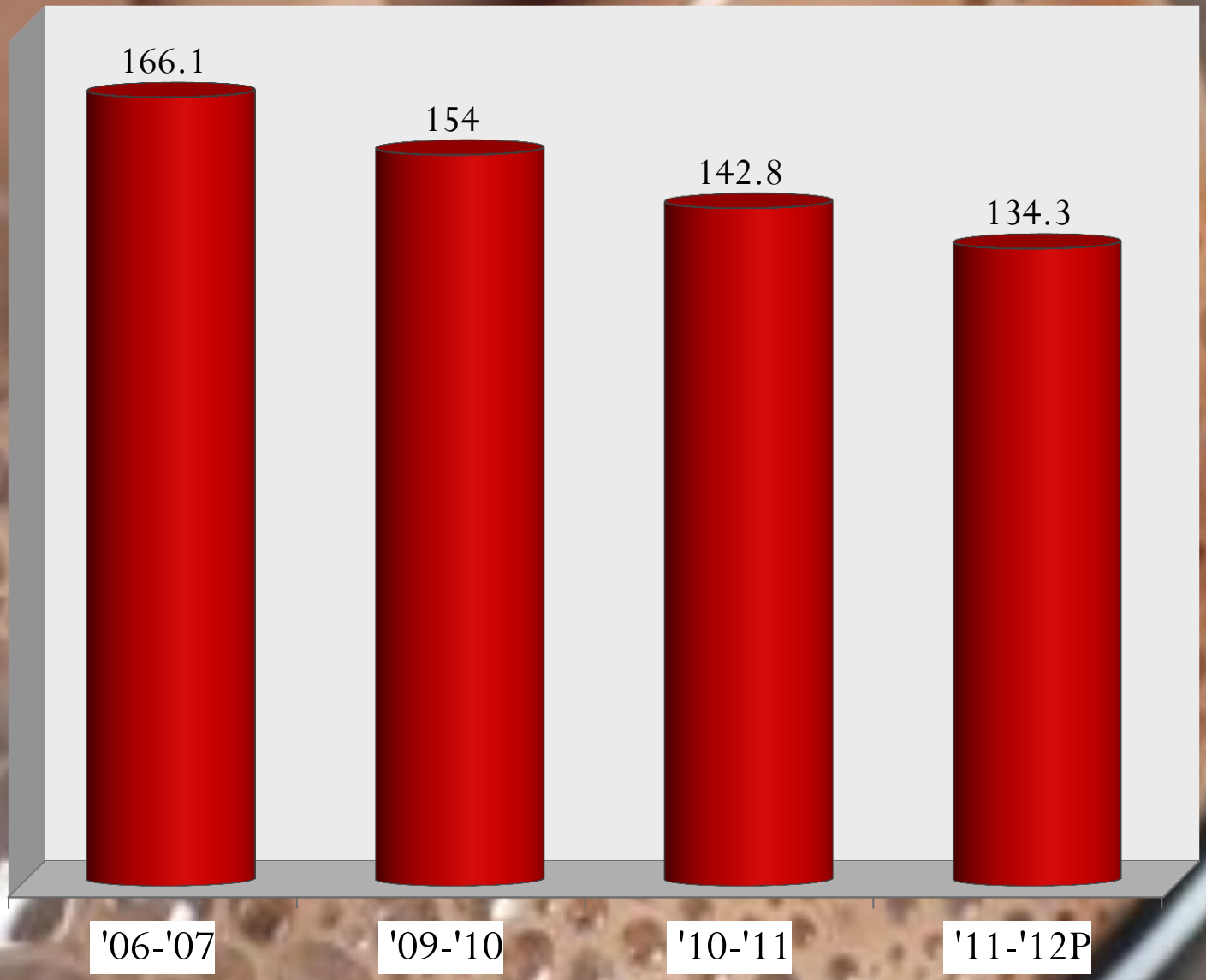
- Calcium- 32% of AIs for children and 33% of AIs for adolescents
- Potassium-16% AIs for children and 16% AI for adolescents
- Magnesium- 22% of RDA for children, and 13% of RDA for adolescents


Flavored milk 3%
Yeast bread & rolls 2%
Yogurt 1%
Condiments & sauces 1%
All other food categories 5%
Dairy desserts 6%
Soda & soft drinks 30%
Ready-to-eat cereals 6%
Grain-based desserts 12%
Candy, sugar, sugary foods 19%
Fruit drinks 15%
Note: Chart represents average values
Source: NHANES (2003-2006), Ages 2-18 yrs

Average flavored school milk has 32 fewer calories than 5 years ago

- The average flavored milk serving in schools this Fall will be 134 calories
- Flavored milk will be only 30 calories more than the white milk in school
- 66% of Processors report newly reformulated product will be offered this Fall
- The most common Chocolate offering will be fat free with 130 calories and only 10 added grams of sugar

Avg. Calories in 8 oz. of Flavored Milk



2011-2012 Projected School Milk Product Profile, Prime Consulting Group


TruMoo Fat Free Chocolate Milk....Has Gone From Good to Even Better!
GARELICK Farms
TruMoo Chocolate Fat Free Milk
A Truly Good Thing.™
NO High Fructose Corn Syrup
Lower Sugar, Lower Sodi and Fewer Calories!
• Non Fat
• No High Fructose Corn Syru
TO OPEN
TruMoo Chocolate Fat Free Milk
Container Size: Old Formula 8 oz. New Formula 8 oz.
Serving Size: 8 oz. 8 oz.
Calories 130 120 Lower
Calories from Fat 0 0
Total Fat 0g 0g
Saturated Fat 0g 0g
Trans Fat 0g 0g
Cholesterol 5mg 5mg
Sodium 200mg 180mg Lower
Total Carbohydrate 24g 20g
Fiber 0g 0g
Sugars 22g 18g Lower
Protein 8g 8g
INGREDIENTS: NONFAT MILK, SUGAR, CONTAINS LESS THAN 1% OF: COCOA (PROCESSED WITH ALKALI), CORNSTARCH, SALT, CARRAGEENAN, NATURAL AND ARTIFICAL FLAVOR, VITAMIN A PALMITATE, VITAMIN D3
INGREDIENTS: NONFAT MILK, SUGAR, CONTAINS LESS THAN 1% OF: COCOA (PROCESSED WITH ALKALI), CORNSTARCH, SALT, CARRAGEENAN, NATURAL FLAVOR, VITAMIN A PALMITATE, VITAMIN D3

Nutritional Comparison

1 serving (8 oz.)

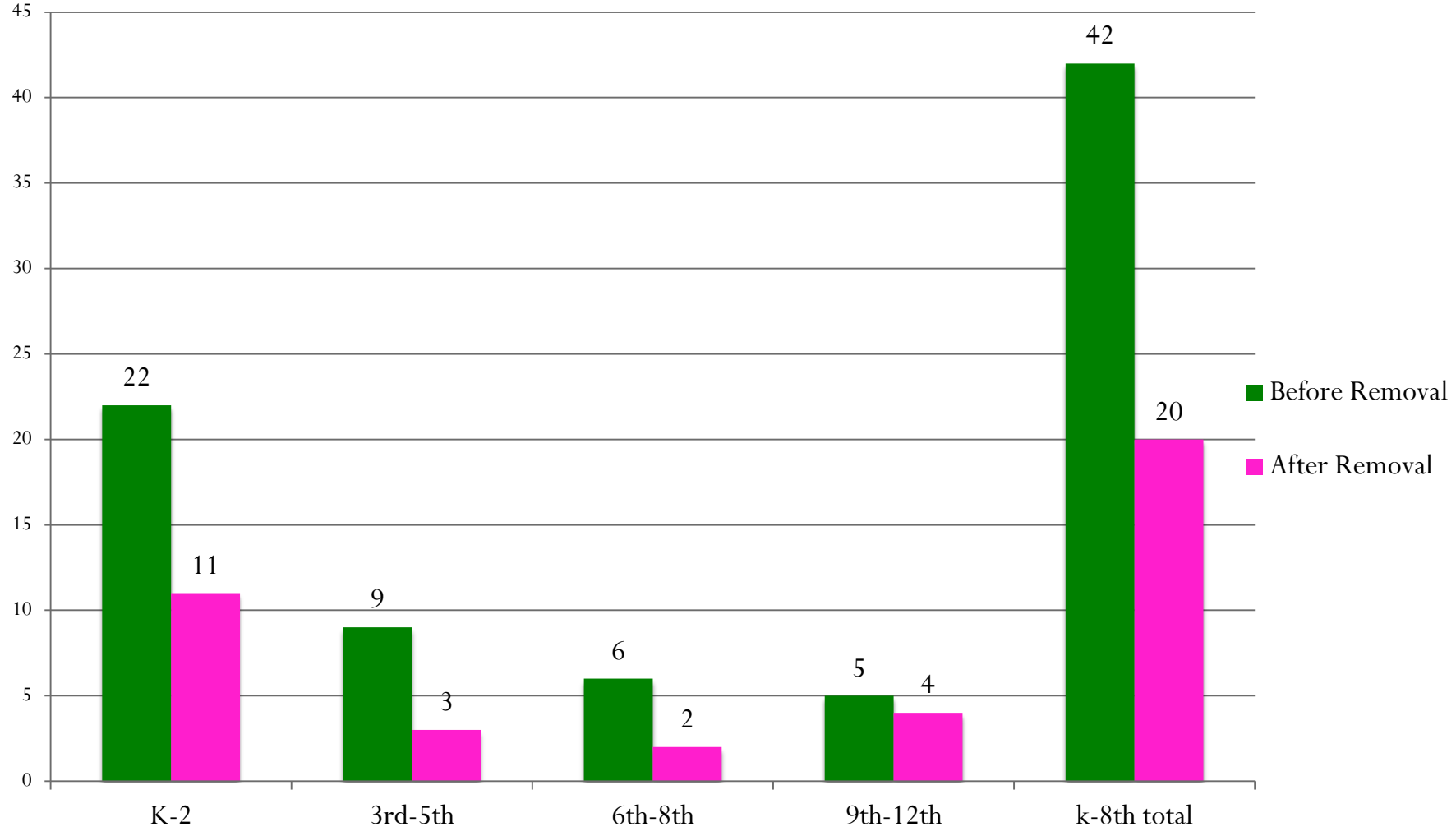
	Chocolate Calories	Chocolate Sugars	Coffee Calories	Coffee Sugars	Strawberry Calories	Strawberry Sugars
Previous Formula	140	22g	140	23g	130	23g
New Formula	130	22g	130	22g	130	22g

What Happens when Milk is Removed from the Schools?

What happens when milk is removed from schools?

- Eliminated all foods and beverages with high fructose corn syrup (flavored milk was removed and made a la carte)
- Purpose: measure total milk consumption before and after the elimination of flavored milk
- Milk invoices for a 3 month period:
  - September-December 2007 (White & Chocolate)
  - September-December 2008 (White only)

Flavored Milk Removed From Schools



Food Revolution Study

- Jamie Oliver Study to make school lunches healthier
- Removes Flavored Milk in Schools
- The new menus were intended to include only fresh and made-from-scratch items, eliminating the use of processed foods.
- 25% decrease in milk consumption by students

Pilot Study

- Purpose: to determine calcium consumption in school-aged children when flavored milk is offered in the school systems

- Objectives:
  - To determine preferences of milk flavors among school children
  - To analyze among of calcium and nutrients consumed among both flavored drinkers and plain milk drinkers

Procedure

- Count Initial Milk
- Place empty/full Milk on table
- Poured wasted milk into separate bowls for separate flavors
- Weigh Bowls

Results: DAY 1 vs. DAY 2

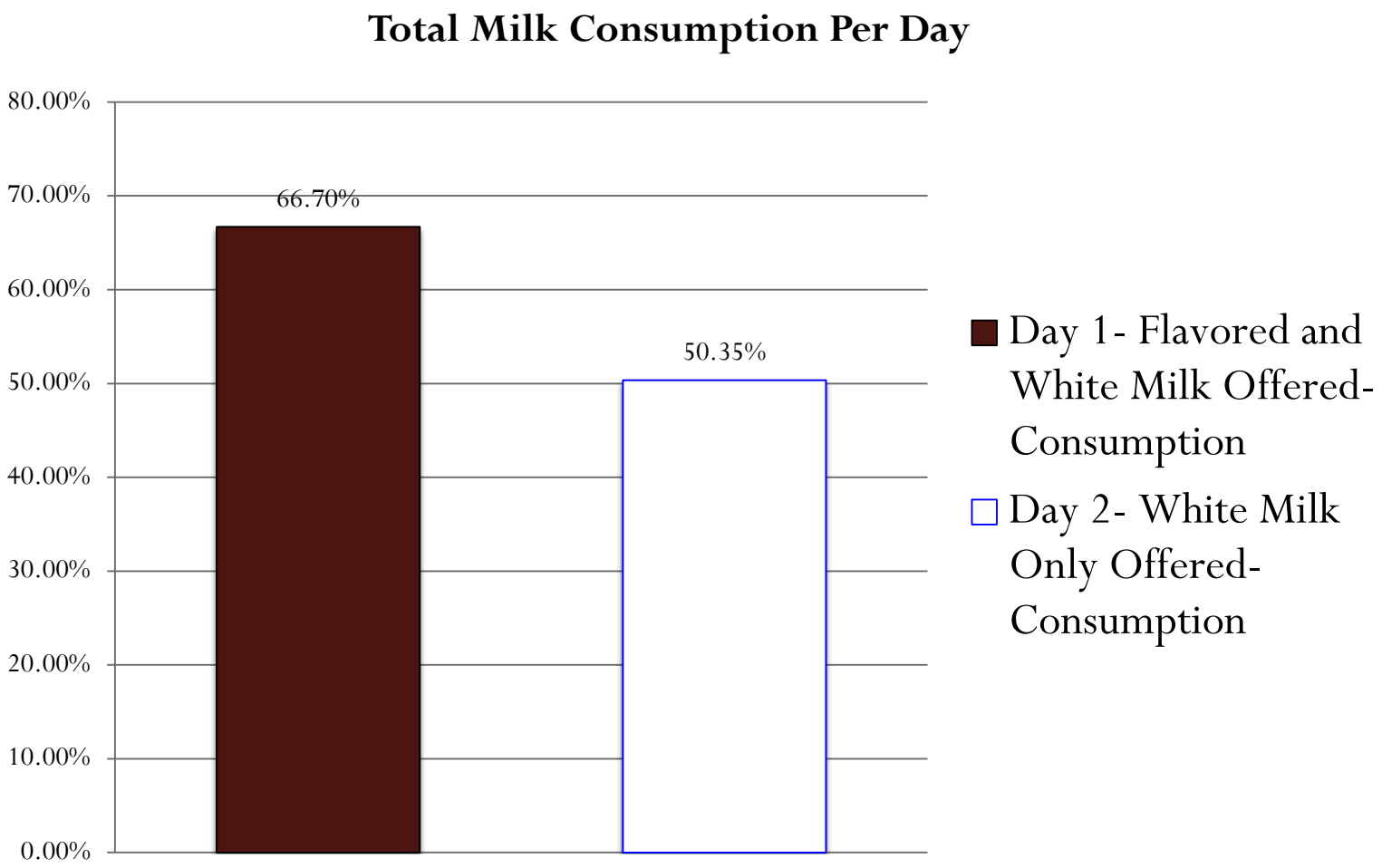


Figure 3

The Value of Milk

- A study showed eliminating flavored milk from elementary schools resulted in a dramatic drop in milk consumption- 35%
- To replace nutrients lost if milk is not consumed can be difficult and expensive.

The Impact on Student Milk Consumption and Nutrient Intakes From Eliminating Flavored Milk in Schools, Milk Processor Education Program, 2010.

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  - Is HFCS liquid death
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High-Fructose Corn Syrup: Harmless Sweetener or Liquid Death?

ABC NightLine Sugar Wars

http://www.hulu.com/watch/136085

Sugar the Bitter Truth?

- **Pediatric endocrinologist Dr. Robert Lustig, whose YouTube video -- entitled "Sugar:The Bitter Truth"**
- **"Fructose is the cause of the current epidemic," insists Dr. Lustig**
- **Fructose is toxic in large quantities, because it is metabolized in the liver in the same way as alcohol, which drives fat storage and makes the brain think it is hungry**

HuffPost Healthy Living. 2010. Sugar Hits the News, Thanks to Dr. Lustig's YouTube Video and Nightline (VIDEO). Retrieved from http://www.huffingtonpost.com/connie-bennett/sugar-hits-the-news-thank_b_506517.html

Ludwig

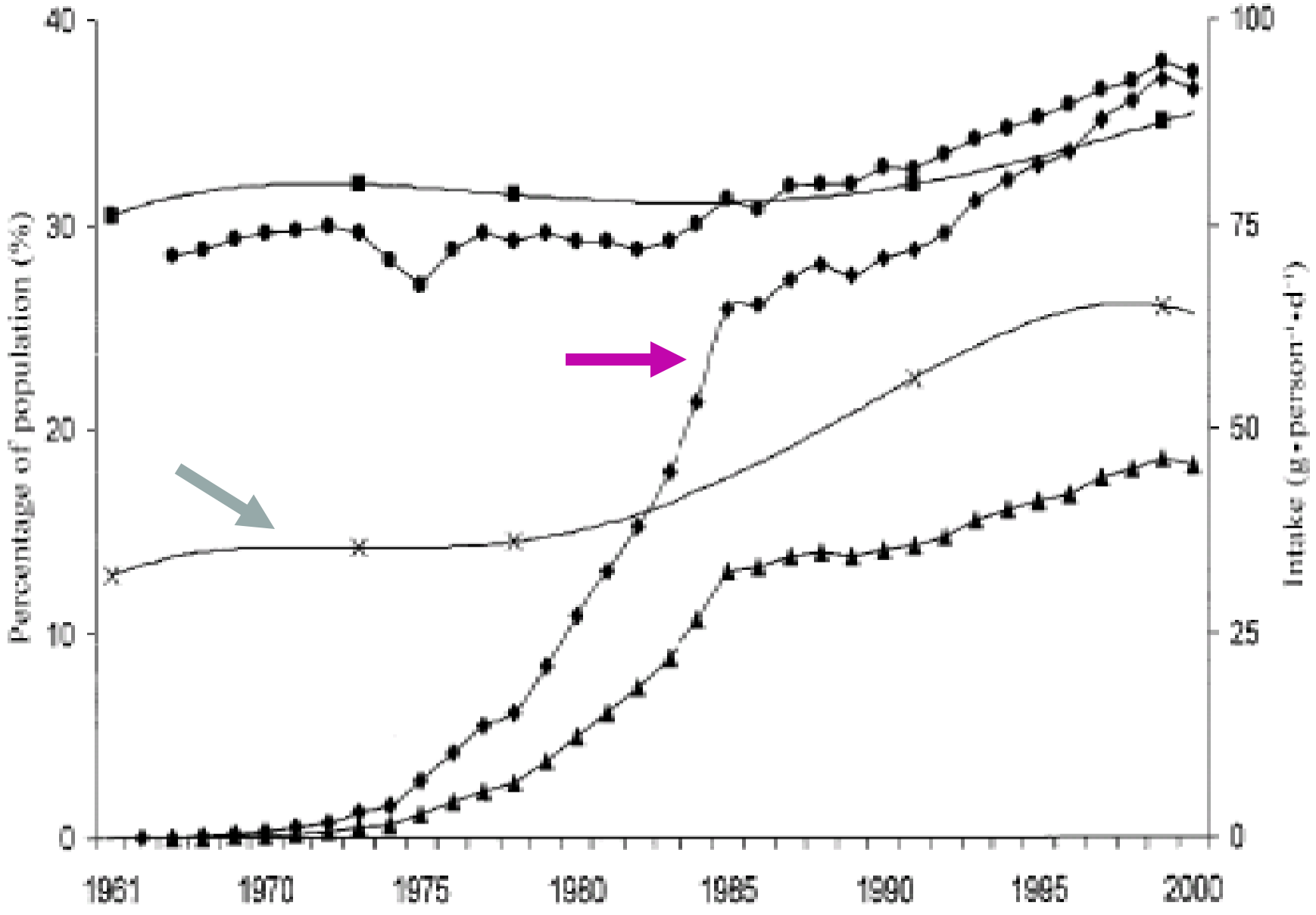
- **Ludwig, a childhood obesity expert, cited sugar as the key source of an American public health crisis**

- **"Tobacco and alcohol are perfect examples. We have made a conscious choice that we're not going to get rid of them, but we are going to limit their consumption. I think sugar belongs in this exact same wastebasket,"' he said.**

MailOnline. 2012. Is sugar actually poisonous? Researchers say the sweet stuff is fatal for our health. Retrieved from http://www.dailymail.co.uk/news/article-2124212/Is-sugar-actually-poisonous-Researchers-say-sweet-stuff-fatal-health.html

HFCS causes obesity

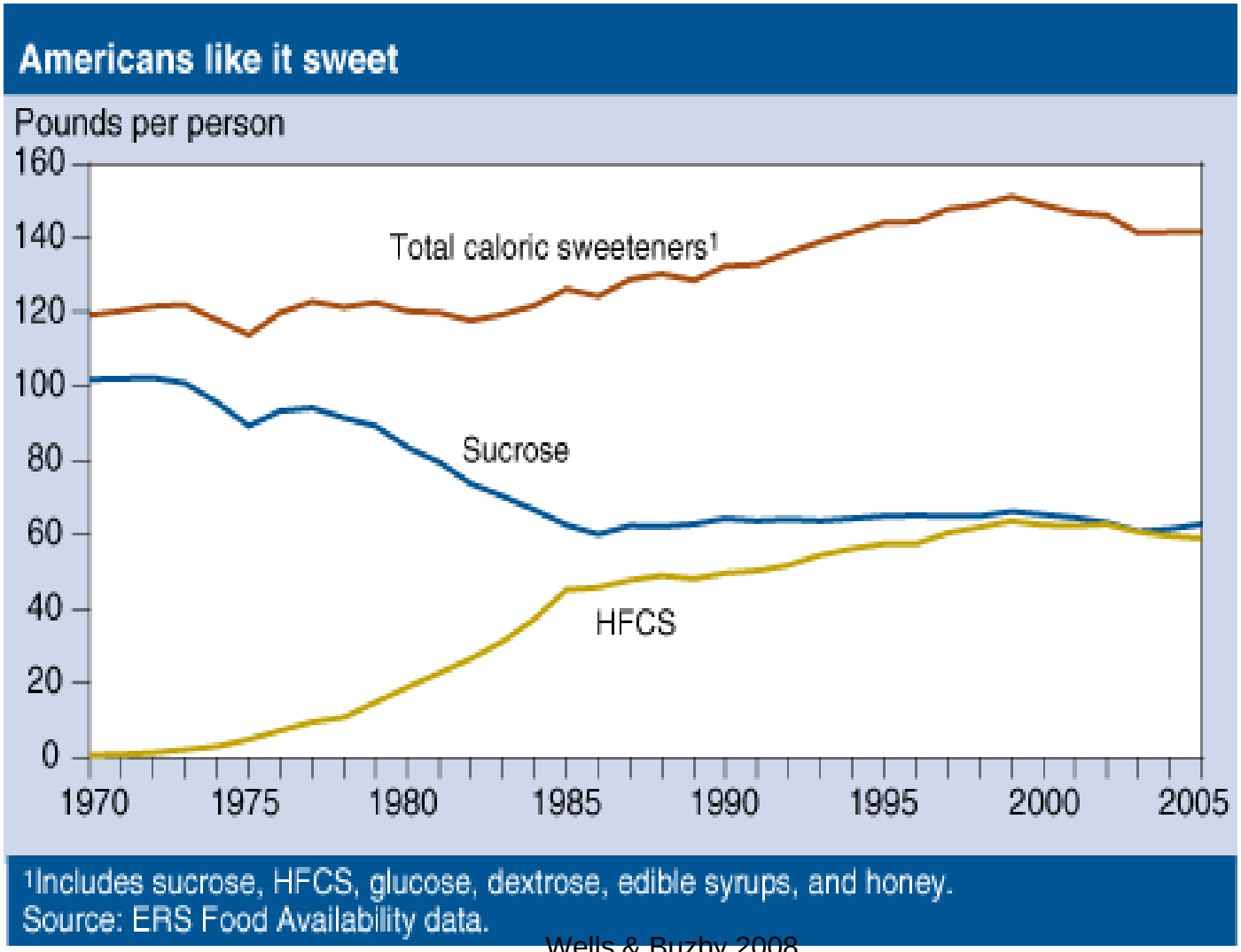
- Arguments for:
  - Increase in HFCS consumption corresponds to increase in obesity in US
  - HFCS Different from sugar rinks



◆ = HFCS ╳ = Obesity

Bray et al. 2004

US Sweetener Consumption 1970-2005



Wells & Buzby 2008

Comparison of HFCS, sucrose, and honey

	Sugar	Honey	HFCS
How sweet is it?	**Sugar is the benchmark**	**Honey is as sweet as sugar**	**There are two types: HFCS-55 as sweet as sugar; HFCS-42 about 92% as sweet**
How many calories per gram?	**4/gram**	**4/gram**	**4/gram**
What's in it?	**50% fructose 50% glucose**	**48% fructose 52% glucose**	**HFCS-55: 55% fructose 45% glucose HFCS-42: 42% fructose 58% glucose**

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Jellybeans Original

Jellybeans

great fruit taste!
real fruit juice!

NET WT. 14 OZ (397g)

nt/Serving	%DV**	Amount/Serving	%DV**
Fat 0g		**Carbohydrate** 34g	**11%**
aturated Fat 0g		Dietary Fiber 0g	**0%**
ans Fat 0g		Sugars 27g	
esterol 0mg		**Protein** 0g	
um 0mg			

min A * • Vitamin C * • Calcium * • Iron *

*Contains
Value of t
**Percent Da
2,000 calor
higher or lo
needs:

Total Fat
Sat. Fat
Cholesterol
Sodium
Total Carboh
Dietary Fib

ED CORN STARCH; LESS THAN 2% OF: APPLE JUICE FROM CONCENTRATE, CITRIC
DIOXIDE), NATURAL AND ARTIFICIAL FLAVORS, SODIUM CITRATE, CARNAUBA WAX,


Contiene 5% Jugo de Manzana
Datos de Nutrición
Tamaño por Ración 1 bolsa (177 mL)
Raciones por Envase 10
Cantidad por Ración
Calorías 80
% Valor Diario*
Grasa Total 0g 0%
Sodio 20mg 1%
Carbohidrato Total 20g 7%
Azúcares 20g
Proteínas 0g
Vitamina C 100%
No es una fuente importante de calorías provenientes de la grasa, grasa saturada, grasas trans, colesterol, fibra dietética, vitamina A, calcio y hierro.
*Los porcentajes de Valores Diarios están basados en una dieta de 2,000 calorías.
INGREDIENTES: AGUA, JARABE DE MAÍZ DE ALTA FRUCTOSA; JUGO CONCENTRADO DE MANZANA, CONTIENE MENOS DE 2% DE ÁCIDO ASCÓRBICO (VITAMINA C), SABOR ARTIFICIAL, ÁCIDO CÍTRICO, SODIUM CITRATE, ÁCIDO ETILEN-DIAMINO-TETRA-ACÉTICO (EDTA) (PARA CONSERVAR LA FRESCURA), ROJO 40, AZUL 1.
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1-800-367-9225
en habla español
this...
Freeze drink pouch for 4 hours or until frozen. Then, pack in the kids' insulated lunch boxes to help keep their lunches cold. By lunchtime, the drink should be thawed and ready to enjoy along with the lunch.
pruebe esto...
Enfríe las bolsas de bebidas durante 4 horas o hasta que estén congeladas. Después guárdelas en las loncheras aisladas de los niños para que su almuerzo se conserve fresco. A la hora del almuerzo, la bebida se habrá descongelado y estará lista para disfrutarse


Kool-Aid Jammers
100% DAILY VALUE VITAMIN C
GRAPE
ARTIFICIALLY FLAVORED JUICE DRINK
BEBIDA DE JUGO CON SABOR ARTIFICIAL
Same 10 Pouches
10 • 6 FL OZ (177mL) POUCHES/BOLSAS
NET/NETO 60 FL OZ (1.87 QT) 1.77L
Kool-Aid
Same 10 Pouches


CONTAINS 5% FRUIT JUICE
CAFFEINE FREE
Nutrition Facts
Serving Size: 8 fl oz (240 mL)
Servings per Container: 16
Amount Per Serving
Calories 70
% Daily Value*
Total Fat 0g 0%
Sodium 105mg 4%
Total Carbohydrate 17g 6%
Sugars 17g
Protein 0g
Vitamin C 100%
Not a significant source of calories from fat, saturated fat, trans fat, cholesterol, dietary fiber, vitamin A, calcium and iron.
*Percent Daily Values are based on a 2,000 calorie diet.
WATER, HIGH FRUCTOSE CORN SYRUP, AND LESS THAN 2% OF: CONCENTRATED JUICES (APPLE, CLARIFIED PINEAPPLE, PASSIONFRUIT, ORANGE), FRUIT PUREES (APRICOT, PAPAYA, GUAVA), ASCORBIC ACID (VITAMIN C), CITRIC ACID, NATURAL AND ARTIFICIAL FLAVORS, PECTIN, ACACIA GUM, ESTER GUM, RED 40, SUCRALOSE, POTASSIUM SORBATE AND SODIUM HEXAMETAPHOSPHATE (PRESERVATIVES).
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FOR BEST TASTE SERVE CHILLED.
PLEASE RECYCLE
CA CASH REFUND
70 CALORIES PER 8 FL OZ SERVING
1 GAL (3.78 L)


Made With Natural Fruit Juices
HAWAIIAN PUNCH
LEMON BERRY SQUEEZE
Natural & Artificial Lemon & Berry Flavored Juice Drink
1 GAL (3.78 L)


CAPRI SUN
NO ARTIFICIAL COLORS, FLAVORS OR PRESERVATIVES
25% LESS SUGAR
THAN LEADING REGULAR JUICE DRINKS
GRAPE
GRAPE FLAVORED JUICE DRINK
FROM CONCENTRATE WITH OTHER NATURAL
10-6 FL OZ (177mL) POUCHES/NET 60 FL OZ (1.87 QT) 1.77L


Contains 10% Juice
Nutrition Facts
Serving Size 1 pouch (177 mL)
Servings Per Container 10
Amount Per Serving
Calories 60
% Daily Value *
Total Fat 0g 0%
Sodium 15mg 1%
Total Carbohydrate 17g 6%
Sugars 16g
Protein 0g
Vitamin E 10%
Not a significant source of Calories from Fat, Saturated Fat, Trans Fat, Cholesterol, Dietary Fiber, Vitamin A, Vitamin C, Calcium and Iron.
* Percent Daily Values are based on a 2,000 calorie diet.
INGREDIENTS: WATER, HIGH FRUCTOSE CORN SYRUP, GRAPE AND PEAR JUICE CONCENTRATES, CITRIC ACID, NATURAL FLAVOR, VITAMIN E ACETATE.
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kraft foods
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1-800-227-7478
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JUN 15 12 CT660
2048TA0313
Tangy Original
SunnyD
100%
VITAMIN C
60
CALORIES
PER 8 FL OZ
SERVING
CITRUS PUNCH
PONCHE CÍTRICO
1 GAL (3.78 L)


CONTAINS 5% JUICE/CONTIENE 5% JUGO
Nutrition Facts
Datos de Nutrición
Serving Size/Tamaño Por Ración: 8 fl oz (240mL)
Servings Per Container/Raciones Por Envase: 16
Amount Per Serving/Cantidad Por Ración
Calories/Calorías 60
% Daily Value*/% Valor Diario*
Total Fat/Grasa Total 0g 0%
Sodium/Sodio 170mg 7%
Total Carbohydrate/Total de Carbohidratos 16g 5%
Sugars/Azúcares 14g
Protein/Proteína 0g
Vitamin C/Vitamina C 100%
Thiamin/Tiamina 15%
Not a significant source of calories from fat, saturated fat, trans fat, cholesterol, dietary fiber, vitamin A, calcium and iron. / No es una fuente importante de calorías de grasa, grasa saturada, grasa trans, colesterol, fibra dietética, vitamina A, calcio ni hierro.
*Percent Daily Values are based on a 2,000 calorie diet.
*Los Porcentajes de Valores Diarios están basados en una dieta de 2,000 calorías.
CONTAINS: WATER, C
LESS OF EACH OF THE
CONCENTRATED JUICE
APPLE, LIME, GRAPEF
ASCORBIC ACID (VITA
HYDROCHLORIDE (VIT
FLAVORS, MODIFIED C
OIL, SODIUM CITRATE,
SUCRALOSE, ACESULF
NEOTAME, SODIUM HE
POTASSIUM SORBATE A
TO PROTECT FLAVOR, Y
CONTIENE: AGUA, JARA
MENOS DE: JUGOS CON
MANDARINA, MANZANA,
ÁCIDO CÍTRICO, ÁCIDO A
C), CLORHIDRATO DE TI
SABORES NATURALES, M
ACEITE DE CANOLA, CITR
DE CELULOSA, SUCRALO
POTÁSICO, NEOTAME, HE
SODIO, SORBATO DE POTA
SODIO PARA CONSERVAR
AMARILLO NÚM. 5, AMAR
DIST. BY/POR SUNNY D
BEVERAGES CO.,
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DO NOT PURCHASE IF
SHAKE WELL BEFORE
RETAILER MAY DISPLAY
REFRIGERATION.


Welch's
ight
Concord Grape
JUICE BEVERAGE
Welch's
CHILLERS
JUICE DRINK
Grape Drink
Welch's
Essentials
Juice Cocktail
1 Serving of Fruit
Concord Grape
Welch's
100% Grape Juice
2 Servings of Fruit
$3.78


Welch's
SINCE 1869
CONTAINS 100% JUICE
100% Grape Juice
FROM CONCENTRATE WITH ADDED 100% VITAMIN C
Nutrition Facts
Amount Per
Calories
Total Fat 0%
Sodium 1%
Potassium 6%
Total Carb 38g 13%
Sugars 36g**
Protein 1g
Vitamin C 100%
Calcium 2%
Magnesium 6%
Manganese 20%
Not a significant source of fat cal, sat fat, trans fat, cholest, fiber, vitamin A, and iron.
*Percent Daily Values are based on a 2,000 calorie diet.
Straight From The Farm
"Not sure people know but we press the whole Concord grape—skins and seeds included. That's important for two reasons. One, that's where the healthy stuff is—and two, farmers hate to see good things go to waste."
-Stella Grabelsek, one of Welch's 1,150 proud family farmer owners. Geneva, OH
American Heart Association
Meets American Heart Association food criteria for saturated fat and cholesterol for healthy people over age 2.
*While many factors affect heart disease, diets low in saturated fat and cholesterol may reduce the risk of heart disease.
Comments or Questions?
Call 1-800-340-6870
Weekdays 9 am–4 pm ET


Concord Grape
FLAVORED JUICE COCKTAIL BLEND FROM CONCENTRATE
CONTAINS 50% JUICE
Nutrition Facts
Amount Per
Calories
Total Fat 0%
Sodium 1%
Total Carb 36g 12%
Sugars 35g
Protein 0g
Vitamin C 100%
Not a significant source of fat cal, sat fat, trans fat, cholest, fiber, vitamin A, and iron.
*Percent Daily Values are based on a 2,000 calorie diet.
INGREDIENTS: FILTERED WATER, CONCORD GRAPE JUICE FROM CONCENTRATE (FILTERED WATER, CONCORD GRAPE JUICE CONCENTRATE)
Welch's
FAMILY FARMER OWNED
Essentials
Straight From The Farm
"Growing Concord and Niagara grapes isn't easy. It takes teamwork, long hours, and a lot of care. But my family and yours deserve the best quality grapes, and I'm proud to say that you'll find them in every bottle of Welch's Essentials."
-Mike Hildebrand, one of Welch's 1,150 proud family farmer owners. Berrien Springs, MI
*per 8oz. glass


Welch's
Light
Concord Grape
JUICE BEVERAGE
CONTAINS 28% JUICE
Nutrition Facts
Calories 45
Total Fat 0
Sodium 75
Total Carb
Sugars 11g
Protein 0g
Vitamin C 100%
Not a significant source of fat cal, sat fat, trans fat, cholest, fiber, vitamin A, calcium, and iron.
*Percent Daily Values are based on a 2,000 calorie diet.
INGREDIENTS: FILTERED
FARMER'S
Welch's
FAMILY FARMER OWNED
PROMISE
Taste you can trust
✓ Real grapes, picked right from our vines
✓ Pressed into juice within 8 hours of picking
✓ You'll love it or we'll replace it ††
Our Family Farmers' Promise to Your Family.
2/3 fewer calories than


Welch's
CHILLERS
JUICE DRINK
Quench Your Thirst
with Welch's Chillers!
CONTAINS 10% JUICE
Nutrition Facts
Calories 14
Total Fat 0
Sodium 35
Total Carb
Sugars 3
Protein 0g
Vitamin C 100%
Percent Daily Values are based on a 2,000 calorie diet.
Welch's Essentials
Welch's Essentials
Want 1 serving of fruit?*
Try Welch's Essentials.
*Per 8 oz. glass
Comments or Questions?
Call 1-800-340-6870
Weekdays 9 am–4 pm EST
PASTEURIZED
SHAKE WELL
Refrigerate After Opening

Contains 28% Juice

Nutrition Facts

Serving Size 8 fl oz (240mL) 1 cup
Servings Per Container 8

Amount Per Serving	
Calories 110	Calories from Fat 0
	% Daily Value*
Total Fat 0g	**0%**
Sodium 45mg	**2%**
Potassium 50mg	**1%**
Total Carbohydrate 28g	**9%**
Sugars 28g	
Protein 0g	
Vitamin C 100% •	Iron 2%

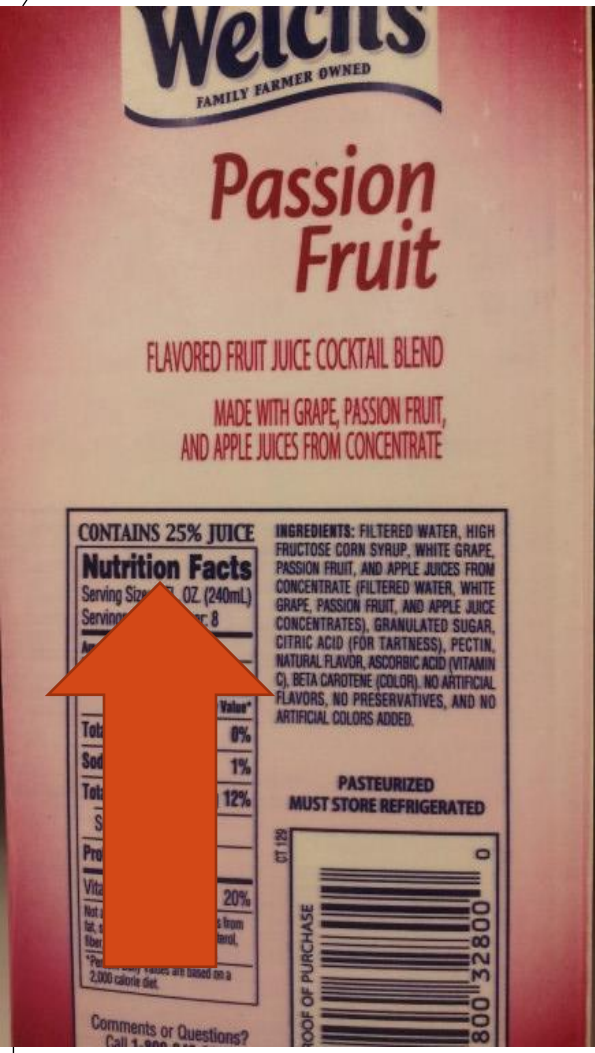
Not a significant source of saturated fat, trans fat, cholesterol, dietary fiber, vitamin A or calcium.

*Percent daily values are based on a 2000 calorie diet.

INGREDIENTS: Filtered Water, Cranberry Juice from Concentrate, Cane or Beet Sugar, White Grape Juice from Concentrate, Lime Juice from Concentrate, Natural Flavors, Sodium Citrate, Red Grape Concentrate (for color), Ascorbic Acid (Vitamin C).

Must refrigerate after opening. For best quality and freshness use within two weeks after opening.


Lively & Exotic Flavor
Welch's
FAMILY FARMER OWNED
Passion Fruit
FLAVORED FRUIT JUICE COCKTAIL BLEND
MADE WITH GRAPE, PASSION FRUIT, AND APPLE JUICES FROM CONCENTRATE
SUPER FUN ZONE
64 FL OZ
Bursting with Fruit Flavor
Welch's
FAMILY FARMER OWNED
Berry Pineapple Passion Fruit
FLAVORED FRUIT JUICE COCKTAIL BLEND
MADE WITH GRAPE, APPLE, PINEAPPLE, PASSION FRUIT, AND RASPBERRY JUICES FROM CONCENTRATE
SUPER FUN ZONE
CHECK OUT OUR FUN GAMES ON THE SIDE PANEL!
Rich, Juicy Mango Taste
Welch's
FAMILY FARMER OWNED
Mango Twist
FLAVORED FRUIT JUICE COCKTAIL BLEND
MADE WITH GRAPE, APPLE, AND MANGO JUICES FROM CONCENTRATE
SUPER FUN ZONE
CHECK OUT OUR FUN GAMES
64 FL OZ


Welch's
FAMILY FARMER OWNED
Passion Fruit
FLAVORED FRUIT JUICE COCKTAIL BLEND
MADE WITH GRAPE, PASSION FRUIT, AND APPLE JUICES FROM CONCENTRATE
CONTAINS 25% JUICE
Nutrition Facts
INGREDIENTS: FILTERED WATER, HIGH FRUCTOSE CORN SYRUP, WHITE GRAPE, PASSION FRUIT, AND APPLE JUICES FROM CONCENTRATE (FILTERED WATER, WHITE GRAPE, PASSION FRUIT, AND APPLE JUICE CONCENTRATES), GRANULATED SUGAR, CITRIC ACID (FOR TARTNESS), PECTIN, NATURAL FLAVOR, ASCORBIC ACID (VITAMIN C), BETA CAROTENE (COLOR). NO ARTIFICIAL FLAVORS, NO PRESERVATIVES, AND NO ARTIFICIAL COLORS ADDED.
PASTEURIZED
MUST STORE REFRIGERATED
Comments or Questions?


FAMILY FARMER OWNED
Berry Pineapple Passion Fruit
FLAVORED FRUIT JUICE COCKTAIL BLEND
MADE WITH GRAPE, APPLE, PINEAPPLE, PASSION FRUIT, AND RASPBERRY JUICES FROM CONCENTRATE
CONTAINS 20% JUICE
INGREDIENTS: FILTERED WATER, HIGH FRUCTOSE CORN SYRUP, GRAPE, APPLE, PINEAPPLE, PASSION FRUIT, AND RASPBERRY JUICES FROM CONCENTRATE (FILTERED WATER, GRAPE, APPLE, PINEAPPLE, PASSION FRUIT, AND RASPBERRY JUICE CONCENTRATES), CITRIC ACID (FOR TARTNESS), NATURAL FLAVOR, ASCORBIC ACID (VITAMIN C), PECTIN. NO ARTIFICIAL FLAVORS, NO PRESERVATIVES, AND NO ARTIFICIAL COLORS ADDED.
PASTEURIZED
MUST STORE REFRIGERATED


Twist™
FLAVORED FRUIT JUICE COCKTAIL BLEND
MADE WITH GRAPE, APPLE, AND MANGO JUICES FROM CONCENTRATE
CONTAINS 20% JUICE
INGREDIENTS: FILTERED WATER, HIGH FRUCTOSE CORN SYRUP, WHITE GRAPE AND APPLE JUICES FROM CONCENTRATE (FILTERED WATER, WHITE GRAPE AND APPLE JUICE CONCENTRATES), MANGO PUREE FROM CONCENTRATE (FILTERED WATER, MANGO PUREE CONCENTRATE), CITRIC ACID (FOR TARTNESS), NATURAL FLAVOR, PECTIN, ASCORBIC ACID (VITAMIN C), BETA CAROTENE (COLOR). NO ARTIFICIAL FLAVORS, NO PRESERVATIVES, AND NO ARTIFICIAL COLORS ADDED.
PASTEURIZED
MUST STORE REFRIGERATED
Vitamin C 20%
Comments or Questions?
Call 1-800-340-6870
Weekdays 9 am–4 pm ET


Minute Maid
PREMIUM
FRUIT PUNCH
100% NATURAL FLAVORS
Minute Maid
PREMIUM
PINK LEMONADE
100% NATURAL FLAVORS
110
LOW PULP
Minute Maid
PREMIUM
ORIGINAL
100% ORANGE JUICE
FROM CONCENTRATE
110


Minute Maid
PREMIUM
ORIGINAL
100% ORANGE JUICE
PASTEURIZED
Nutrition Facts
Serving Size 8 fl oz (240 mL)
Servings Per Container 7
Amount Per Serving
Calories 110
% Daily Value*
Total Fat 0g 0%
Sodium 15mg 1%
Potassium 450mg 13%
Total Carbohydrate 27g 9%
Sugars 24g
Protein 2g Not a significant source of protein
Vitamin C 120% • Calcium 2%
Thiamin 10% • Niacin 2%
Vitamin B6 4% • Folate 15%
Magnesium 6%
Not a significant source of calories from fat, saturated fat, trans fat, cholesterol, dietary fiber, vitamin A and iron.
*Percent Daily Values are based on a 2,000 calorie diet.
CERTIFIED by
American Heart Association
heartcheckmark.org
While many factors affect heart disease, diets low in saturated fat and cholesterol may reduce the risk of this disease.
OUR QUALITY PROMISE ASSURES YOUR SATISFACTION. WE GUARANTEE IT.
CONSUMER INFORMATION
CALL 1-800-888-6488.
SE HABLA ESPAÑOL.
www.minutemaid.com
100% ORANGE JUICE FROM CONCENTRATE CONTAINS PURE FILTERED WATER, PREMIUM


Minute Maid
PREMIUM
PINK LEMONADE
13% FRUIT JUICE
PASTEURIZED
Nutrition Facts
Serving Size 8 fl oz (240 mL)
Servings Per Container 7
Amount Per Serving
Calories 110
% Daily Value*
Total Fat 0g 0%
Sodium 15mg 1%
Total Carbohydrate 29g 10%
Sugars 28g
Protein 0g
*Percent Daily Values are based on a 2,000 calorie diet.
PRODUCED FOR
THE COCA-COLA COMPANY
ATLANTA, GA 30313 U.S.A.
NO PRESERVATIVES ADDED
SHAKE WELL
KEEP REFRIGERATED
BEST IF USED WITHIN 7-10 DAYS AFTER OPENING.
CONSUMER INFORMATION CALL 1-800-888-6488.
SE HABLA ESPAÑOL.
www.minutemaid.com
OUR QUALITY PROMISE ASSURES YOUR SATISFACTION. WE GUARANTEE IT.
©2011 The Coca-Cola Company.


Minute Maid
PREMIUM
FRUIT PUNCH
5% JUICE BLEND
† A BLEND OF GRAPE, PINEAPPLE, PEAR AND APPLE JUICES FROM CONCENTRATE AND OTHER INGRE
Nutrition Facts
Serving Size 8 fl oz (240 mL)
Servings Per Container 7
Amount Per Serving
Calories 90
% Daily Value*
Total Fat 0g 0%
Sodium 15mg 1%
Total Carbohydrate 25g 8%
Sugars 25g
Protein 0g
*Percent Daily Values are based on a 2,000 calorie diet.
JUICES FROM CONCENTRATE, LESS THAN 1% OF: PEAR AND APPLE JUICES FROM CONCENTRATE, NATURAL FLAVORS, CITRIC ACID (PROVIDES TARTNESS), SUCRALOSE, GRAPE SKIN EXTRACT (FOR COLOR).
PRODUCED FOR
THE COCA-COLA COMPANY
ATLANTA, GA 30313 U.S.A.
NO PRESERVATIVES ADDED.
SHAKE WELL
KEEP REFRIGERATED
BEST IF USED WITHIN 7-10 DAYS AFTER OPENING.
CONSUMER INFORMATION CALL 1-800-888-6488.
SE HABLA ESPAÑOL.


$1.68
$1.68
NO PULP
Tropicana
PURE PREMIUM
100% PURE
FLORIDA
ORANGE JUICE
Tropicana
Made with REAL Fruit Juice
APPLE HARVEST PUNCH
FLAVORED WITH OTHER NATURAL FLAVORS
FLAVORED JUICE BEVERAGE BLEND
Tropicana
Made with REAL Fruit Juice
BERRY PUNCH
FLAVORED WITH OTHER NATURAL FLAVORS
FLAVORED JUICE BEVERAGE BLEND
Tropicana
Made with REAL Fruit Juice
TROPICAL PUNCH
FLAVORED WITH OTHER NATURAL FLAVORS
Tropicana
Made with REAL Fruit Juice
PEACH ORCHARD PUNCH
FLAVORED WITH OTHER NATURAL FLAVORS
FLAVORED JUICE BEVERAGE BLEND
$1.50
Tropicana
FRUIT PUNCH
Tropicana
FRUIT PUNCH
Tropicana
TROPICAL PUNCH
Tropicana


NO PULP
FOR BEST TASTE, USE BY:
JUN 04 12
100% Juice
Nutrition Facts
Serving Size 8 fl oz (240 mL)
Servings Per Container about 7
Amount Per Serving
Calories 110 Calories from Fat 0
% Daily Value*
Total Fat 0g 0%
Saturated Fat 0g 0%
Trans Fat 0g
Cholesterol 0mg 0%
Sodium 0mg 0%
Potassium 450mg 13%
Total Carbohydrate 26g 9%
Sugars 22g
Protein 2g
Vitamin C 120% • Calcium 2%
Thiamin 10% • Riboflavin 0%
Niacin 4% • Vitamin B6 6%
Folic Acid 15% • Magnesium 6%
Not a significant source of: dietary fiber, vitamin A and iron.
* Percent Daily Values are based on a
ENJOY TROPICANA!
Keep Refrigerated • Best if Consumed
Within 7 to 10 Days After Opening • Shake Well
QUESTIONS OR COMMENTS?
Call 1-800-237-7799
¿PREGUNTAS O COMENTARIOS?
Llame 1-800-570-8719
Le atenderemos en Español
www.tropicana.com
PLEASE RECY
Low in Saturated Fat & Cholesterol
CERTIFIED by
American Heart Association
heartcheckmark.org
While many factors affect heart disease, diets low in saturated fat and cholesterol
Tropicana Manufacturing Company, Inc., Bradenton, Florida 34206 USA
©2012 Tropicana Products, Inc.


Tropicana
Made with REAL Fruit Juice
APPLE HARVEST PUNCH
5% JUICE PASTEURIZED
Nutrition Facts
Ingredients: Filtered water, high fructose corn syrup, apple juice concentrate, citric acid, natural flavors, ascorbic acid (vitamin C), caramel color, peach puree concentrate, pear juice concentrate and grape juice concentrate.
TROPICANA MANUFACTURING COMPANY, INC.
BRADENTON, FLORIDA
34206 USA
©2011 TROPICANA PRODUCTS, INC.
Keep Refrigerated
Shake Well For Best Taste
No artificial flavors added.
Best if used within 7 to 10 days after opening.
Questions or comments?
Call 1-800-237-7799
¿Preguntas o Commentarios?
Llame 1-800-570-8719
www.tropicana.com
Tropicana
Made with REAL Fruit Juice
BERRY PUNCH
5% JUICE PASTEURIZED
Nutrition Facts
Ingredients: Filtered water, high fructose corn syrup, grape juice concentrate, citric acid, apple juice concentrate, ascorbic acid (vitamin C), natural flavors, pear juice concentrate and strawberry juice concentrate.
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BRADENTON, FLORIDA
34206 USA
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Keep Refrigerated
Shake Well For Best Taste
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Questions or comments?
Call 1-800-237-7799
¿Preguntas o Commentarios?
Llame 1-800-570-8719
www.tropicana.com
Tropicana
Made with REAL Fruit Juice
TROPICAL PUNCH
5% JUICE PASTEURIZED
Nutrition Facts
Protein 0g
Vitamin A 0% • Vitamin C 100%
Calcium 0% • Iron 0%
Ingredients: Filtered water, high fructose corn syrup, grape juice concentrate, orange juice concentrate, citric acid, natural flavors, ascorbic acid (vitamin C), clarified pineapple juice concentrate, apple juice concentrate, cherry juice concentrate and passion fruit juice concentrate.
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BRADENTON, FLORIDA
34206 USA
©2011 TROPICANA PRODUCTS, INC.
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Llame 1-800-570-8719
www.tropicana.com
Tropicana
Made with REAL Fruit Juice
PEACH ORCHARD PUNCH
5% JUICE PASTEURIZED
Nutrition Facts
Vitamin A 0% • Vitamin C 100%
Calcium 0% • Iron 0%
Ingredients: Filtered water, high fructose corn syrup, apple juice concentrate, orange juice concentrate, citric acid, natural flavors, ascorbic acid (vitamin C), peach puree concentrate, pear juice concentrate and grape juice concentrate.
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BRADENTON, FLORIDA
34206 USA
©2011 TROPICANA PRODUCTS, INC.
Keep Refrigerated
Shake Well For Best Taste
No artificial flavors added.
Best if used within 7 to 10 days after opening.
Questions or comments?
Call 1-800-237-7799
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Llame 1-800-570-8719
www.tropicana.com

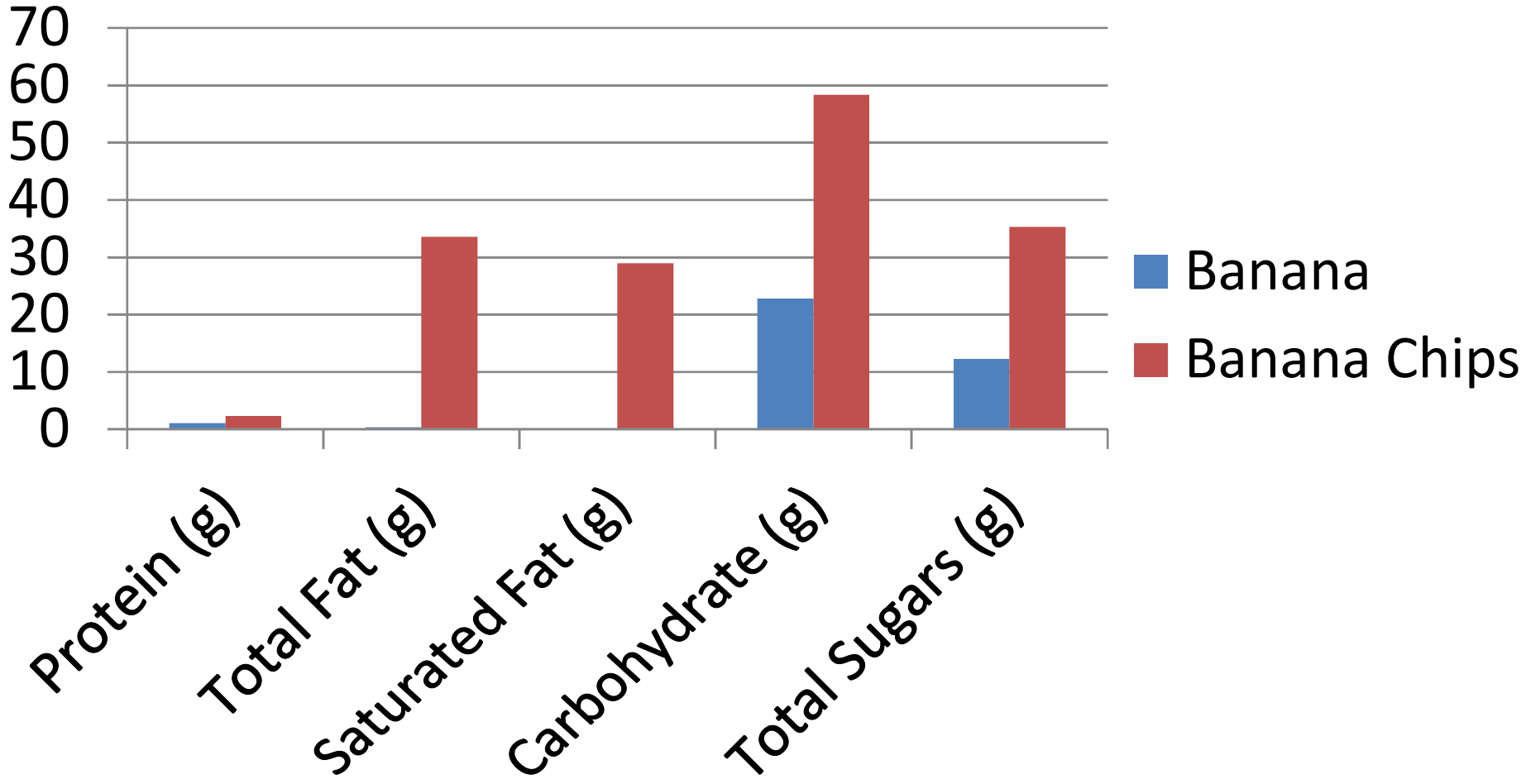

V8
FUSION
VEGETABLE & FRUIT
Concord Grape
Raspberry
100% JUICE


V8
Splash
Cherry
Pomegranate
Antioxidant Plus +
A CHERRY AND POMEGRANATE FLAVORED BEVERAGE WITH 4 JUICES FROM CONCENTRATE, WITH OTHER NATURAL FLAVORS
NET 64 FL. OZ. (2 QT.) (1.89 L)

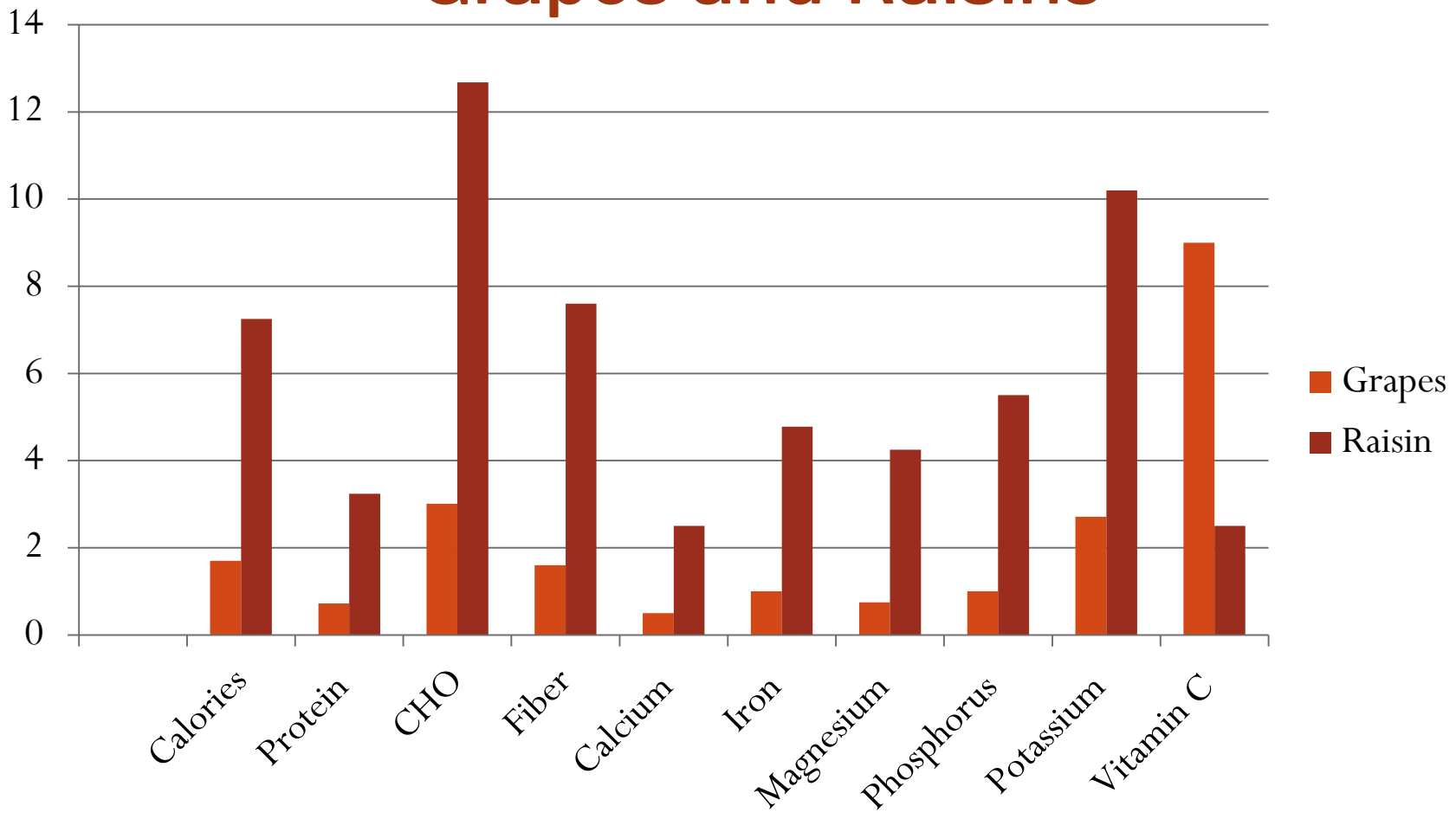

100% JUICE
Nutrition Facts
Serving Size 8 FL. OZ. (240 mL)
Amount Per Serving
Calories 140 Calories from Fat 0
% Daily Value*
Total Fat 0g 0%
Saturated Fat 0g 0%
Trans Fat 0g
Cholesterol 0mg 0%
Sodium 125mg 5%
Potassium 150mg 4%
Total Carbohydrate 35g 12%
Dietary Fiber 0g 0%
Sugars 31g
Protein 0g
Vitamin A 10% • Vitamin C 100%
Calcium 2% • Iron 4%
Vitamin E 10% •


V8 Splash
CONTAINS 10% JUICE
Nutrition Facts
Serving Size 8 FL. OZ. (240 mL)
Servings Per Container 8
Amount Per Serving
Calories 90
% Daily Value*
Total Fat 0g 0%
Sodium 35mg 1%
Potassium 45mg 1%
Total Carbohydrate 23g 8%
Sugars 16g
Protein 0g
Vitamin A 50% • Vitamin C 100%
Vitamin E 20%
Not a significant source of Calories from Fat, Saturated Fat, Trans Fat, Cholesterol, Dietary Fiber, Calcium, Iron.
INGREDIENTS: WATER, HIGH FRUCTOSE CORN SYRUP, RECONSTITUTED VEGETABLE JUICE (WATER AND CONCENTRATED JUICE OF CARROTS), RECONSTITUTED FRUIT JUICE (WATER AND CONCENTRATED JUICE OF APPLES, CHERRIES, POMEGRANATES), CONTAINS LESS THAN 2% OF: CITRIC ACID, MALIC ACID, NATURAL FLAVORING, VITAMIN C (ASCORBIC ACID), VITAMIN E (ALPHA TOCOPHEROL ACETATE), RED 40, BETA CAROTENE, SUCRALOSE.
Campbell's
CAMPBELL SOUP COMPANY
CAMDEN, NJ, U.S.A.
08103-1701
DO NOT PURCHASE UNLESS CAP AND NECKBAND ARE INTACT.
SHAKE WELL BEFORE OPENING. COLOR SWIRLS ARE A NATURAL OCCURRENCE. PASTEURIZED FOR PREMIUM QUALITY. RECOMMEND USE BY DATE ON CAP. REFRIGERATE BEFORE SERVING.

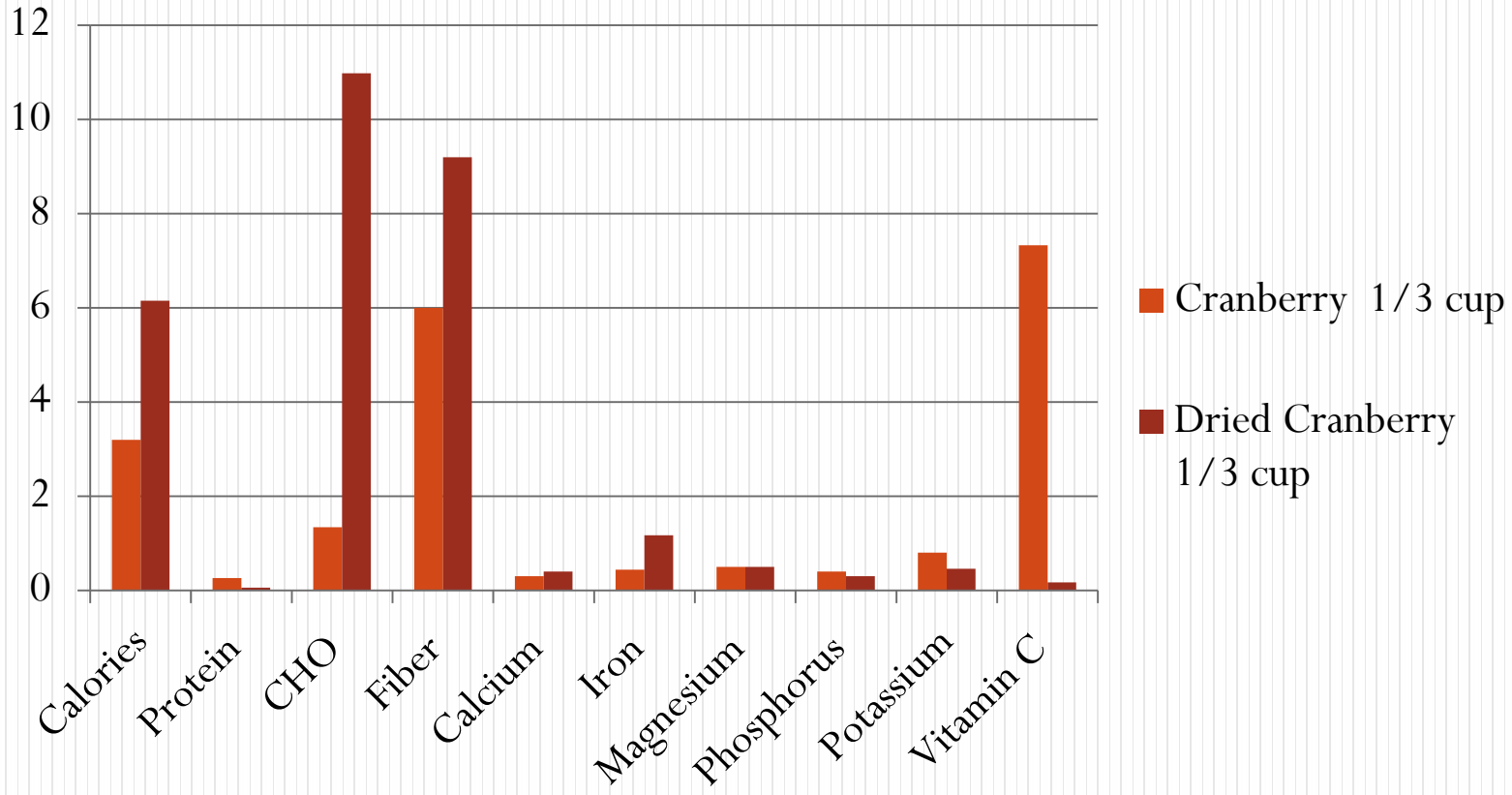
Gone Bananas (100g)



% RDA Comparison Grapes and Raisins



% RDA Comparison
Cranberries and Dried Cranberries

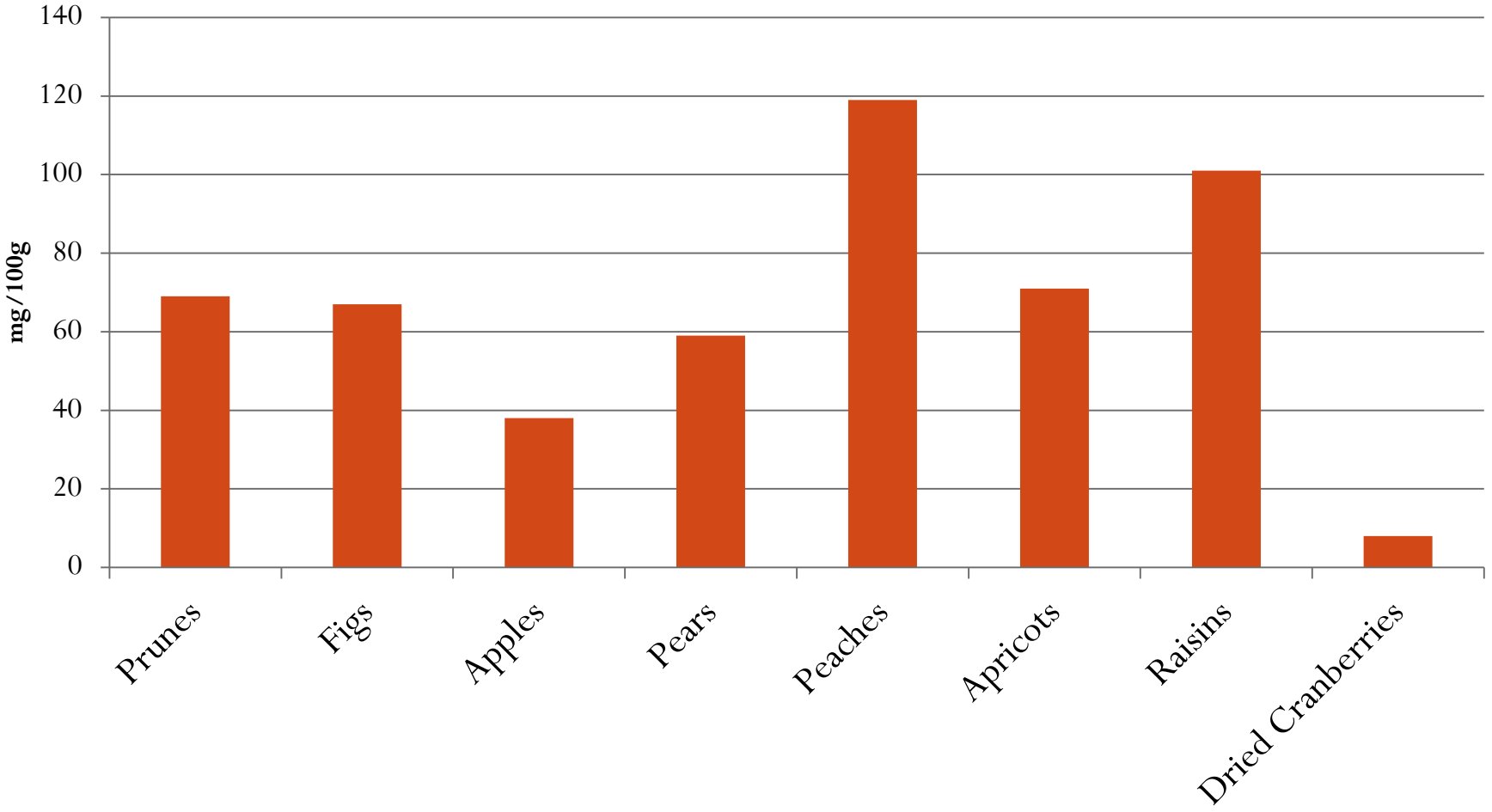


Nutrient comparison between dried fruits

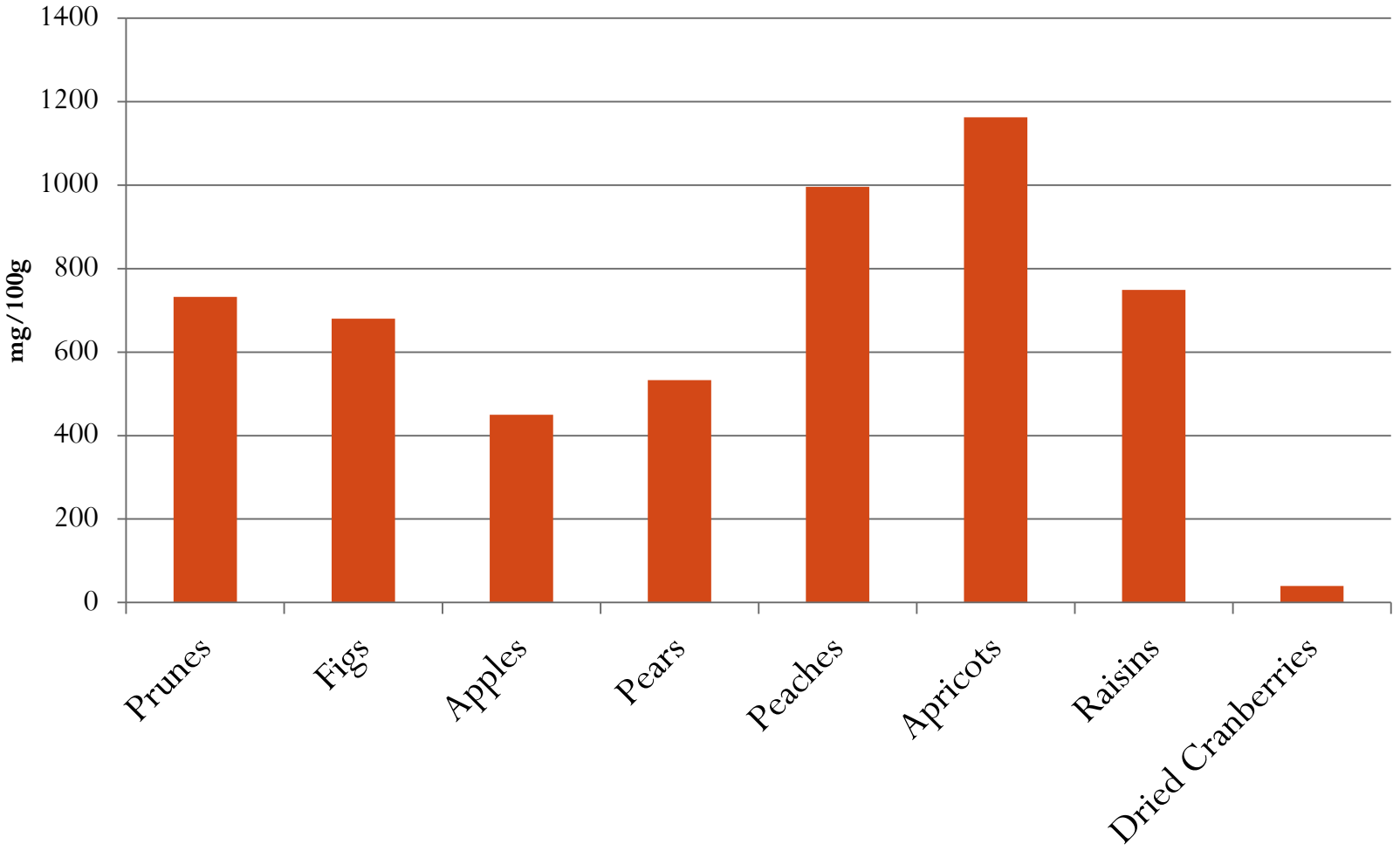
Dried fruits vary in their nutrient content, each one scoring highest for different nutrients

- Figs – calcium, iron
- Raisins – phosphorus, vit c, potassium
- Sweetened dried cranberries – added sugar

Phosphorus


140
120
100
80
60
40
20
0
mg/100g
Prunes
Figs
Apples
Pears
Peaches
Apricots
Raisins
Dried Cranberries

Potassium


1400
1200
1000
800
600
400
200
0
mg/100g
Prunes
Figs
Apples
Pears
Peaches
Apricots
Raisins
Dried Cranberries

Added Sugar Friend or Foe

- Dietary recommendations for added sugar
- Sugar added as a friend encouraging nutrient dense foods:
  - Dressing on salads
  - Sweetened milk
- Sugar as a foe
  - When added to nutrient devoid foods
  - When it replaces nutrients
    - Juices
    - Dried fruits
- Replacing sugar with nutrient dense foods

“Low calorie, low sugar, no salt. . . No wonder the dog doesn’t beg anymore”

How have you replaced sugar with nutrient dense foods

Usefulness of Sugar

- **Binding**
- **Browning**
- **Texture**
- **Balance sour, bitter**
- **Filler, fat replacement**
- **Viscosity**

Binding

- Snack, energy bars
- Whole-grain cookies, muffins
- Gluten free products

Try:

- Dried fruit (w/o added sugar)
- Flaxseed meal
- Honey, agave nectar

Texture

- **Whole-grain breads**
- **Cookies, muffins**

Try:

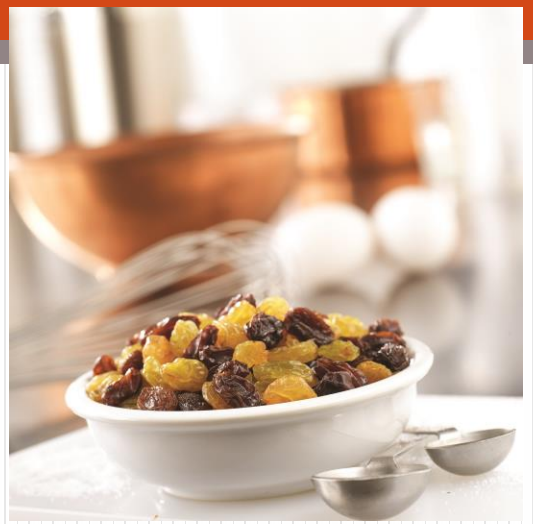
- **Fruit juice concentrate**
- **Honey, agave nectar, molasses**

Balance and Enhance Flavor

- **Vinaigrettes**
- **Marinades**
- **Tomato sauces**

Try:

- **100% Fruit juice**
- **Honey**



Filler/Fat Replacement

- Muffins
- **Cookies**
- **Meatballs, Burgers**

Try:

- **Puréed carrots, sweet potatoes**
- **Apple sauce**

Viscosity

- Sauces
- Salad Dressings
- Glazes

Try:

- Fruit, vegetable, herb, or spice purees
- Honey, agave nectar
- 100% fruit juice
- Reductions, concentrates

Coco Cocoa Nut Torte

Ingredients:

- 1 c. almond meal/flour
- ½ c. unsweetened coconut
- **½ c. cocoa powder**
- 1 tsp baking soda
- ¼ tsp salt
- 1 cup raisins
- ½ cup pitted dates
- ¾ c. water
- 3 Eggs
- 2 T coconut oil
- 2 tsp vanilla

This could be eaten as a dessert or an entrée with all of the powerful ingredients!

Directions:

Preheat oven to 325 F. Grease an 8" round cake pan.
Mix together almond meal, cocoa powder, baking soda, and salt in a bowl and set aside.
In a blender, food processor, or an immersion blender, blend the raisins, dates, and water until smooth.
Add the eggs, coconut oil, and vanilla to the blended mixture and mix until smooth.
Add the wet ingredients to the dry ingredients and mix just until incorporated. Pour batter into greased cake pan and spread evenly.
Bake for 25-30 minutes or until toothpick comes out clean. Let cool 10-15 minutes.

Cutting Sugar: Roasted Tomato and Raisin Salsa

Yield: 1 quart

Serves:30

Ingredients:

1 C. -California raisins

2 – 14.5 oz cans fire roasted tomato diced, drain

1 C. - toasted pepitas (pumpkin seeds)

4 T - cocoa nibs – crushed

2 each - Ancho chilis, toasted then soaked in 2 C. hot water for 15 minutes

~~**½ c. Dark Brown sugar**~~

1/4 C. raisin paste

1 T - olive oil

½ C. - 1/4" diced red onion

1 T - lime juice

1 t - apple cider vinegar

To Taste Salt and pepper

Directions:

Heat olive oil in a small sauté pan and add cocoa nibs, cook stirring until fragrant. Add raisins and cook for 2-5 minutes stirring, until raisins are soft and shiny, remove from heat and let cool. Puree the Anchos with 1/2 of the water they were plumped in, and the raisin paste. Mix tomatoes, pepitas, cocoa nibs, onion, raisins and chili mixture, lime juice, vinegar and salt and pepper to taste. Serve with Blue Corn C

Cut Sodium: Raisin Tomato Relish

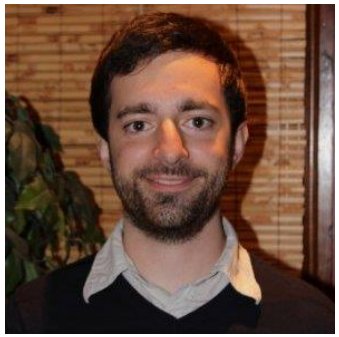
Ingredients:

- **1 C. – Sun-Maid golden raisins, plumped in hot Green Tea for 20 minutes, drained**
- **3 C. - Soft Sun Dried Tomatoes, diced 1/4 "**
- **1 T. - Fresh Ginger, peeled, finely grated**
- **2 T. - Fresh Cilantro, chopped**
- **1 t. - Sesame Oil**
- **2 T. - Chili Oil**
- ~~**1 T. - Kikkoman Ponzu Sauce**~~
- **1 T. Raisin Juice Concentrate**
- **1C. - Yellow Onions, julienned and Caramelized, cooled to room temperature**

Directions:

- Combine all the ingredients for the relish in a bowl, mix well.
- Store refrigerated until ready to use.

Thanks...



Chris Starbird

Julia MacKenzie

Maggie Schuster

Elizabeth Shuff

Conclusion

- We are consuming way to much added sugar
- But it is not the cause of the decline of western civilization
- It is bad when it replaces nutrients
- It is good when it encourages nutrient dense foods
- It is good when the added sugar is replaced by nutrient dense foods
- Choose your sugar by the company it keeps