

# Red/Orange is the New Black!

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### **Integrating Nutritious Tomato Products in to Your Menu**



from research organizations

# National School Lunch Program Fruit & Vegetable Concerns

Ripped from the Headlines:

Kids Tossing Out Fruits and Veggies at Lunch



Science News

# School lunch study: Visual proof kids are tossing mandated fruits and veggies in trash

In perverse effect, USDA mandate decreased consumption, study shows

Date: August 25, 2015

Source: University of Vermont

Summary: Less than a month before Congress votes on whether to reauthorize a controversial program mandating healthier school lunches, a new study confirms the suspicions of school officials -- many students are putting the fruits and vegetables they're now required to take straight into the trash, consuming fewer than they did before the law took effect.



# Kids Tossing Out Fruits and Veggies

Fruits and Vegetable Consumption Study:

- August study *Public Health Reports* first to use digital imaging to capture student's lunch trays before and after exited lunch line.
- Compared fruit/vegetable intake before and after Healthy Hunger-Free Kids Act 2010, which mandates kids put more fruits and vegetables trays.
- Almost 500 tray observations over 10 visits in 2 elementary schools in Northeast before implementation of USDA guidelines; almost twice as many observations afterwards.



## Kids Tossing Out Fruits and Veggies



Fruits and Vegetable Consumption Study:

- Digital imaging methodology involved visual estimations/calculations based on photographs of trays as students reached cashier and after passed food disposal area.
- Children put more fruits/vegetables on trays, but consumed fewer and increased waste by 35%.
- "It was heartbreaking to see so many students toss fruits like apples into the trash right after exiting the lunch line," said Sarah Amin, PhD, University of Vermont, study co-author.

# What Fruits and Vegetables are Kids Eating?

- Children preferred processed fruits/vegetables, such as tomato paste on pizza or 100% fruit juice to whole varieties.
- Researchers suggested mixing vegetables in with parts of the meal.
- "An important message is that guidelines need to be supplemented with other strategies to enrich fruit and vegetable consumption," said Amin.



Study in *Journal of Child Nutrition and Management*, Sarah Amin et al.

# Effect of Entrée/Vegetable Pairings on Plate • Study suggests more than half



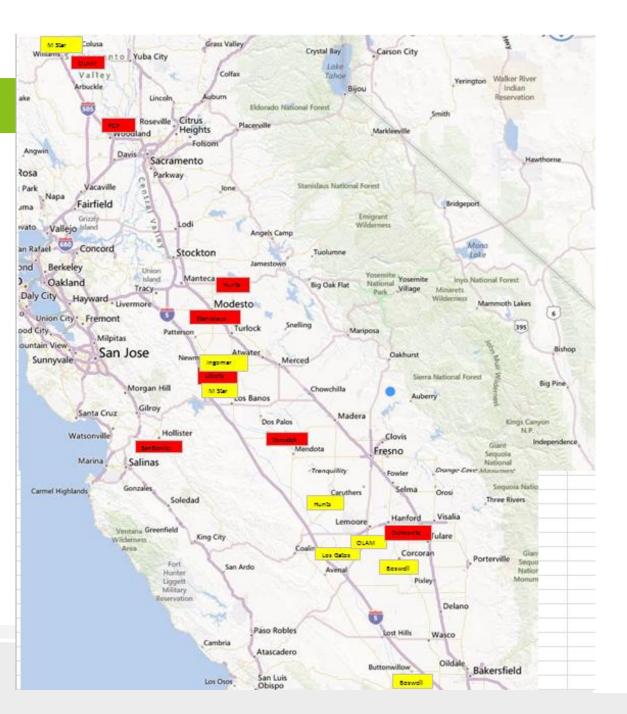
- Study suggests more than half of all vegetables served in schools wasted, important nutrients ending up in trash instead of nourishing students.
- Found vegetable waste increased after 2012-2013 implementation of USDA revised school meal rules.
- Researchers collected plate waste data from three central Texas elementary schools in USDA NSLP.
- Less popular vegetables on side (i.e. broccoli with chicken nuggets) resulted in more waste.
- Pairing entrées with popular vegetables, such as potatoes resulted in the least amount of waste.

Food and Nutrition Sciences, Texas A&M University

Tomatoes are Second Most Popular Vegetable, Followed by Potatoes

- New USDA report:
- Tomatoes account for 22% of vegetables grown for Americans
- 66 pounds of tomatoes per person per year; 20 pounds fresh, 46 pounds processed
- Intake of potatoes falling; tomatoes is growing





<b>U.S. P</b> 1	rocess
	Acres
<u>Counties</u>	Planted
<mark>Fresno</mark>	99,000
Yolo	35,000
<mark>Kings</mark>	27,000
<mark>San Joaquin</mark>	21,000
Merced	13,000
<mark>Stanislaus</mark>	13,000
<mark>Kern</mark>	12,000
Colusa	11,000
Solano	9,000
Sutter	7,000
Madera	5,000
Sacramento	2,000
San Benito	2,000
Other	2,000
Santa Clara	1,000
	259,000

### California Grows 90% of U.S. Processed Tomatoes

8%

4%

3%

3%

2%

1%

1%

1%

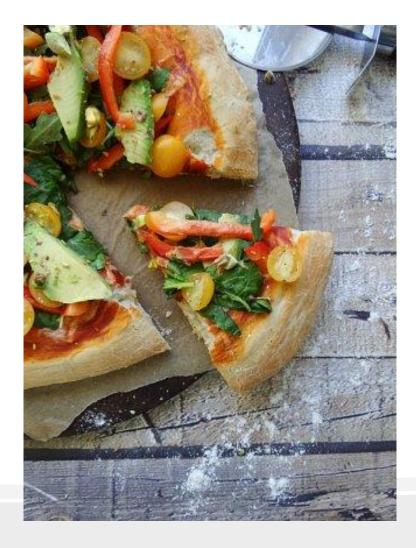
0.4%

100%

- California

   primary growing
   region for
   Processed
   Tomatoes for
   entire U.S. –
   special tomato,
   like a Roma!
- Farm /Field to Can in less than
  6 hours – very
  fresh &
  nutritious!

# Tomatoes are Hot!



Tomato products fit into many of the most popular, beloved kids meals, including:

- Pizza
- Spaghetti / Lasagna
- Meatloaf with Tomato Sauce
- Tomato Soup
- Salsa

Tomato products are part of many cultural food traditions, including:

- Italian pasta dishes
- Indian curry dishes
- Mexican burritos, tacos

Tomato products are loaded with essential vitamins, minerals,

and fiber—all in a neat low-fat, low-calorie package.

One cup of canned tomatoes contains:

- 41 calories
- o grams fat
- 2.4 grams fiber
- 2 grams protein
- 37% Daily Value (DV) vitamin C

- 8% DV vitamin A
- 9% DV vitamin K
- 13% DV vitamin B6
- 13% DV iron
- 13% DV potassium
- 9% DV manganese



# Tomatoes' Lycopene Bonus

 Tomato products rich in powerful antioxidant group carotenoids, which inactivate free radicals, protect against cancer, slow development of atherosclerosis.



• Most plentiful carotenoid is lycopene, followed by phytoene, phytofluene, zetacarotene, gamma-carotene, beta-carotene, eurosporene, and lutein.

- Tomato products responsible for more than 80% of lycopene in U.S. diet; research suggests lycopene may be big factor behind the health-protective effects of tomato products.
- Lycopene in processed tomatoes is much better absorbed; appears to have synergistic effects with other nutrients in tomatoes.

# Tomatoes Fight Inflammation & Oxidative Stress

- Tomato products may help cool down inflammation, root in chronic diseases.
- Research shows people who eat a high-tomato diet have lower levels of inflammatory markers. (*Curr Med Chem*, 2010)
- Eating foods rich in antioxidant vitamins and carotenoids, such as tomato products, linked with reducing oxidative stress markers, LDL-oxidation process—key in the development of cardiovascular disease. (*Mol Nutr Food Res*, 20120)
- Dietary intake of more than 40 mg/day lycopene reduced susceptibility of LDL to oxidation nonsmoking subjects. (*Clin Chem,* 2000)



# Tomatoes are Heart Healthy

- Regular intake tomato products consistently associated with lower rates of CVD.
- Study of nearly 40,000 middleaged/older women, higher levels tomato-based products linked with lower rates of CVD. (*J Nutr*, 2003)
- Study including 21 healthy participants, three-week high-tomato diet let to significant decrease in LDL cholesterol levels. (*Br J Nutr, 2007*)



Research shows tomato products may aid in hypertension. In single-blind, placebo-controlled study including 31 participants, short-term treatment with tomato extract reduced blood pressure in people with grade-1 hypertension untreated with drugs. (*Am Heart J*, 2006)



# Other Tomato Benefits



- **Cancer Protection.** Research supports lycopenerich foods, like tomato products, may help reduce risk of some cancers, such as digestive tract and pancreatic cancers, but bulk of evidence linked with prostate cancer. (AICR)
- **Defense Against Sun Damage.** Tomato products may offer natural protection from sun's damaging UV rays. (*Int J Vitam Nutr Res*, 2005)
- **Bone Health.** Laboratory research hints carotenoid intake may protect bone health. (*J Bone Miner Res*, 2009)
- **Glucose Controlling Benefits.** Data from Women's Healthy Study showed at least 10 servings/wk tomato products linked with 66% lower risk of elevated HbA1c levels, a marker of glycemic control. (*J Nutr*, 2012)

# Red/Orange Vegetables Added to Dietary Guidelines in 2010 WEEKLY VEGETABLE SUBGROUP CHART

- "Increase vegetable and fruit intake."
- "Eat a variety of vegetables, especially dark- green and red and orange vegetables and beans and peas."
  - Dietary Guidelines

	DARK GREEN VEGETABLES	RED AND ORANGE VEGETABLES	BEANS AND PEAS	STARCHY VEGETABLES	OTHER VEGETABLES		
	AMOUNT PER WEEK						
Children							
2-3 yrs old 4-8 yrs old	1/2 cup 1 cup	2 1/2 cups 3 cups	1/2 cup 1/2 cup	2 cups 3 1/2 cups	1 1/2 cups 2 1/2 cups		
Girls							
9-13 yrs old 14-18 yrs old	1 1/2 cups 1 1/2 cups	4 cups 5 1/2 cups	1 cup 1 1/2 cups	4 cups 5 cups	3 1/2 cups 4 cups		
<b>Boys</b> 9-13 yrs old 14-18 yrs old	1 1/2 cups 2 cups	5 1/2 cups 6 cups	1 1/2 cups 2 cups	5 cups 6 cups	4 cups 5 cups		

### Red/Orange Vegetable Category Added to NSLP guidelines

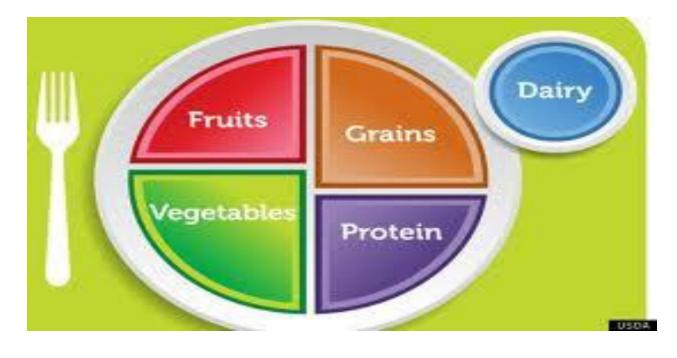
Source: USDA

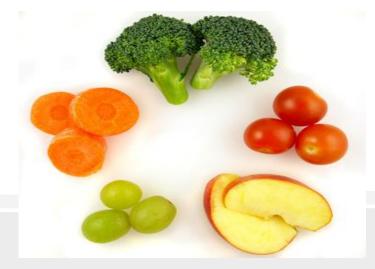
# Vegetables (Lunch)



	Lunch Meal Pattern			
	Grades	Grades	Grades	
	K-5	6-8	9-12	
Meal Pattern	Amount of Food Per Week (Minimum Per Day)			
Vegetables (cups)	3.75 (0.75)	3.75 (0.75)	5 (1)	
Dark green	0.5	0.5	0.5	
Red/Orange	0.75	0.75	1.25	
<ul> <li>Beans/Peas (Legumes)</li> </ul>	0.5	0.5	0.5	
Starchy	0.5	0.5	0.5	
Other	0.5	0.5	0.75	
Additional Veg to Reach Total	1	1	1.5	

#### **NEW MEAL PATTERN focuses on More Fruits & Vegetables ...**





Tomato Products are one of the Top 2 Vegetable Items Kids ACTUALLY consume, especially in canned form! Red/Orange Category Requirements Highest of All

K-8 = <sup>3</sup>/<sub>4</sub> cup/week 9-12= 1 <sup>1</sup>/<sub>4</sub> cup / week



# Cost of Food

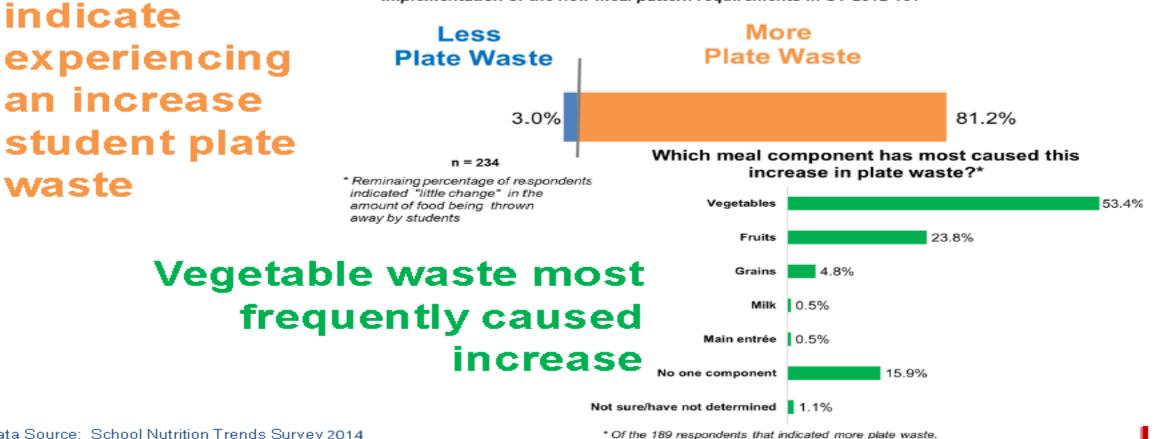
81.2%

waste



#### Plate Waste Trends

What changes, if any, has your school meal program experienced in the amount of food being thrown away by students (i.e. plate waste) for lunch since the implementation of the new meal pattern requirements in SY 2012-13?



Data Source: School Nutrition Trends Survey 2014

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### NATIONAL SCHOOL LUNCH PROGRAM PRODUCT AND RECIPE NEEDS

### Help meeting Fruit & Vegetable Requirements

- Dark Green Vegetables: Ideas other than broccoli and spinach
- Red/Orange: Ideas beyond carrots and sweet potatoes
- Legumes: Soups recipes and products, ways of serving cold



- More vegetarian choices/options

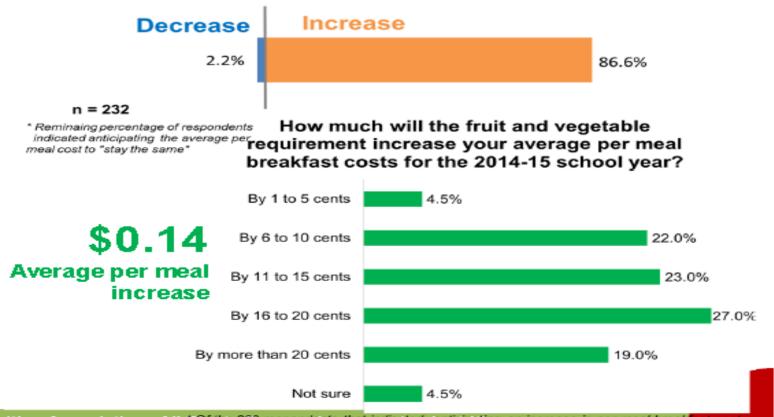
# Fruit & Vegetable



87% anticipate that the fruit and vegetable requirement will increase their average per meal cost for breakfast for the 2014-15 school year

Data Source: School Nutrition Trends Survey 2014

Fruit & Vegetable Costs for Breakfast What change, if any, do you anticipate the fruit and vegetable requirement for breakfast will have on your average per meal costs for the 2014-15 school year (compared to the 2013-14 school year)?



Copyright © 2014 School Nutrition Association. All Rogthes200 respondents that indicated anticipating approase in per meal breakfast cost.

### **MOST POPULAR SCHOOL LUNCH ENTREES**



#### **#3 Other Chicken Entrees**



#### #2 Chicken Tenders/Nuggets



#### #4 Mexican Foods



Photo Credit: EZ Event Photography

#### Source: SNA Patron Report – Fall 2013

Section 2—Vegetables/Fruits							
1 Food As Purchased, AP	2 Purchase Unit	3 Servings per Purchase Unit, EP	4 Serving Size per Meal Contribution	5 Purchase Units for 100 Servings	6 Additional Information		
TOMATO PRODUCTS							
Tomato Products, Canned <b>Tomato Paste</b> 24%-28% Natural Tomato Soluble Solids (NTSS) Includes USDA Commodity	No. 10 can (111 oz)	192.0	1 tablespoon paste (1/4 cup vegetable)	0.53	1 No. 10 can = about 12 cups tomato paste		
	No. 2-1/2 can (30 oz)	52.0	1 tablespoon paste (1/4 cup vegetable)	2.0	1 No. 2-1/2 can = about 3-1/4 cups tomato paste		
	Pound	27.6	1 tablespoon paste (1/4 cup vegetable)	3.7	1 No. 10 can paste plus 3 cans water = 48 cups single strength tomato juice		
	Picnic (12 oz)	20.7	1 tablespoon paste (1/4 cup vegetable)	4.9	12 oz can = about 1-1/4 cups paste		
Tomato Products, canned <b>Tomato Puree</b> Not less than 8% but less than 24% Natural Tomato Soluble Solids (NTSS)	No. 10 can (106 oz)	96.0	2 tablespoons puree (1/4 cup vegetable)	1.1	1 No. 10 can = 12 cups puree, 1 No. 10 can tomato puree plus one can water = 24 cups single strength tomato juice		
	No. 2-1/2 can (29 oz)	26.2	2 tablespoons puree (1/4 cup vegetable)	3.9			
	Pound	14.4	2 tablespoons puree (1/4 cup vegetable)	7.0			

**USDA FOOD BUYING GUIDE – Tomato Paste & Puree Credit as a Concentrate!** 

# #1 Menu Pairing: Cheesy Breadsticks



 $\frac{1}{2}$  cup Red /Orange Vegetable +  $\frac{1}{4}$  cup of Dark Green =  $\frac{3}{4}$  cup Veg Requirement

Pictured: 2.5 oz. Marinara Sauce Portion Cup or 3 oz. from #10 Can =  $\frac{1}{2}$  cup Red /Orange Note: Check Mfg. Product Formulation Statement to insure Crediting Claim – it varies!

# #1 Reimbursable Meal: Pizza



#### Entree:

- French Bread Pizza
  with
- Marinara Sauce
- Chicken Tender Snack Wrap
- Green Beans
- Steamed Carrots
- Assorted Juices





A Tomato Dipping Sauce: A popular choice for kids 2.5 – 3 oz. Makes the Meal Reimbursable! Marinara / Spaghetti / Pizza – they all work!! Check Mfg. for specific serving size!

# #4 Most Popular Entrees: Mexican



# #4 Most Popular Entrees: Mexican



Check Yield and PFS Claims Some mfgs. Offer Substantial benefits to Brown Box and other options (3 oz. vs. 4 oz. serving = ½ cup) **Use pre-portioned cups** 

OR

#### Portion Yourself from #10 Cans



#### Low Sodium SALSA is the perfect Red/Orange Veg Option!!

### #2 Most Popular Entrees: Chicken Tenders

Replace Condiments with a Tomato Creditable Vegetable Dipping Sauce!



<sup>1</sup>/<sub>2</sub> cup Red /Orange Vegetable + <sup>1</sup>/<sub>4</sub> cup of Red Orange Veg = <sup>3</sup>/<sub>4</sub> cup R/O for week!

### Salsa / Sauce & Tomato Juice for Breakfast Red/Orange Vegetable Substitutes for Fruit





Tomato Juice: 4 times /week - Offer 4 oz. And/or Tomatoes: Salsa or Sauce (1/2 cup creditable portions) = 2 cups/week

SY14/15 Regulation Change: Potatoes can only be served when 2 cups of vegetables from other Categories are offered weekly. Tomatoes the perfect solution!

#### What about Salsa with Burritos? Marinara Sauce with Breakfast Pizza? And Tomato Juice?

#### Breakfast in Classroom -Reimbursable Meal Options: Dallas ISD Example SY14/15



#### Utilizing Salsa Cup for additional <sup>1</sup>/<sub>2</sub> cup F/V requirement at breakfast in SY14/15

Breakfast Reimbursable Meal Options – Vegetable Options for Fruit -Salsa & Tomato Juice – Perfect Options! Add Potatoes too!

BUST BY

% Reduced Fr

Milk

TO OPEN

### Breakfast Menu Items

28

 Scrambled Eggs with Toast Cinnamon Pop-Tart Apple Juice Craisins 4 Sausage, Potato, Egg, Cheese Wrap Assorted Cereals with Toast with Jelly

- Apple Slices
- Fruit Juice







A Case Study The "Munchable" Reimbursable Meal SY 13/14 Concepts/ Pics

Traci E. Miller, RD, LDLake Travis ISD – Austin, Tx areaDirector of Food and Nutrition Services (FANS)(512) 533-6035millert@ltisdschools.org

Lunchables© or "Munchables" from You ?? New Ideas to Compete & Beat the Brown Baggers Nutritious Grab N Go Ideas!



For Lunch / Supper /Summer

#### Why Let the Grocery Stores Sell Product to Your Customers?



Offer More Nutritious / More Delicious .. . MUNCHABLE Reimbursable Meal Options! You Can Do It Better!

Make Your Own >>>>



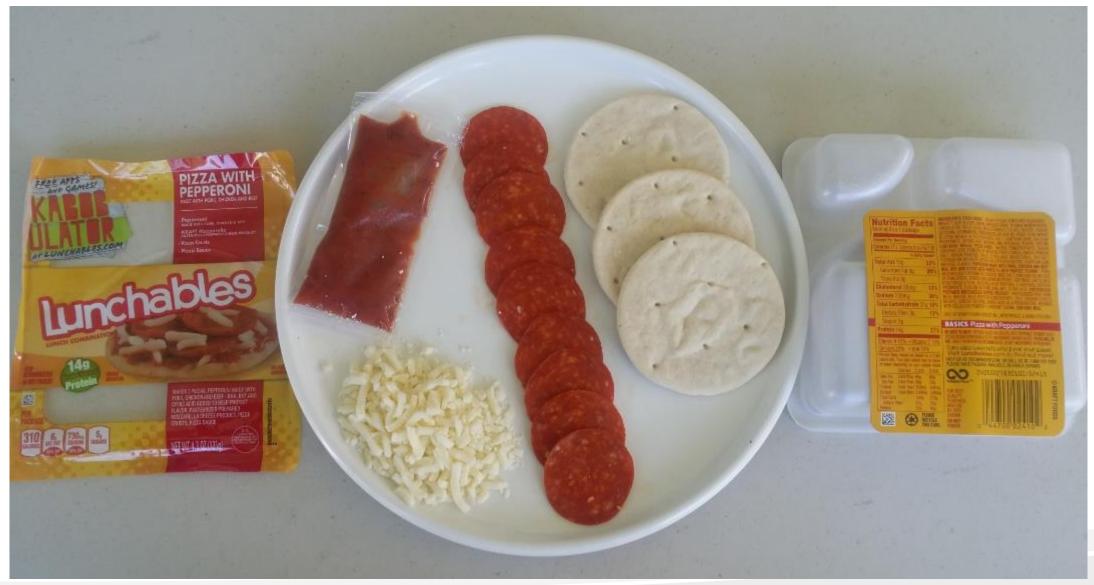
#### The 2 Most Popular Choices: Pizza & Nacho





Calories: 480 /340 Sodium: 770mg / 560 mg Fruit Juice: 5% (not 100%)

#### Pizza with Pepperoni – 1 oz. of mozzarella, 9 pepperoni, 3 flat bread, 1 oz. sauce



310 calories; 14 gram protein; 730 mg sodium; Total Fat 15 gr; 6 gr. Sat fat; 5 gr. sugar



Deep Dish Pizza with Pepperoni

- +100% Juice
- Oreo Pack
- Flatbread
- Cheese
- Pepperoni (4)

### Chicken Dunks

- + Capri Sun
- Nerds Box
- 6 Nuggets
- Ketchup



## Nachos Cheese Dip & Salsa



## Nachos Grande Cheese Dip & Salsa >>

More Salsa Fruit Foot Kool Aid Powder Water Bottle Chip Bag





Revolution Foods Cheese Pizza Kit = 10 gram of Protein / 16 gram of Whole Grain / One Serving of Fruit "Mom Approved Ingredients"

Retail: \$3.75 - \$4.00



**Revolution Foods – Cheese Pizza Kit** 

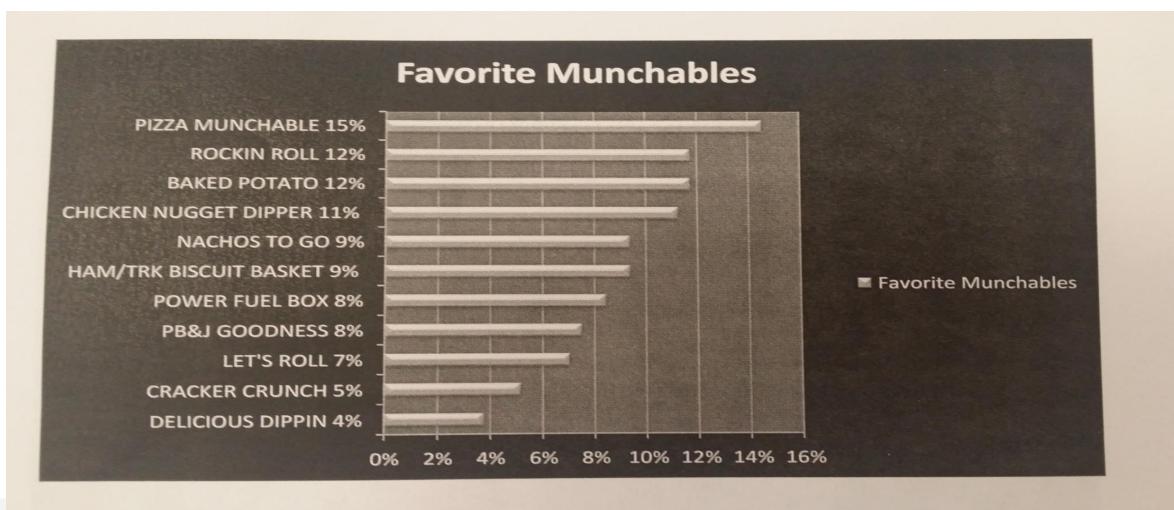
Calories = 250 / Sodium = 510 mg Protein = 10 g



### "100 Million School Meals"

Clean Ingredient Label "No Artificial Anything"

## Lake Travis ISD – Austin Texas April 2014 Survey Results POPULAR NEW GRAB N GO NUTRITIOUS REIMBURSABLE MEAL OPTIONS



Source: Traci Miller, RD – Director of Nutrition Services – Lake Travis ISD

# Pizza Munchable



English Muffin = Grain Shredded Mozzarella = Protein Tomato / Pizza Sauce  $-\frac{1}{2}$  cup R/O Apple = Fruit

## Taco Salad



- Turkey Taco Meat
- Romaine & Green Leaf Lettuce
- · Cherry Tomatoes

Source: Tracy Miller, RD – Director : Lake Travis ISD – Austin, Texas

# Chicken Nugget Dippers



- Chicken Nuggets with BBQ
- Cucumbers with Ranch

# Delicious Dippin'



- Honey Maid Graham Sticks
- Pretzel Rod

Source: Tracy Miller, RD – Director : Lake Travis ISD – Austin, Texas

GRAB N GO Reimbursable Meal Options – "MUNCHABLES" The Pizza Munchable!!



GRAB N GO Reimbursable Meal Options – "MUNCHABLES" . . . Taco Salad!



## GRAB N GO Reimbursable Meal Options – "MUNCHABLES" . . . . Fresh Homemade Nachos!



GRAB N GO Reimbursable Meal Options – "MUNCHABLES" . . . . Nachos – A different way!



GRAB N GO Reimbursable Meal Options – "MUNCHABLES" Pretzel Snack Kit! Fresh apples & fresh carrots!



- What do your menus look like?
  - Can you integrate /offer more Shelf Stable Tomato products that your kids will eat?

D	Choose your school 🔻
	Pre-School
	Elementary A - C
	Elementary D - K
	Elementary L - O
	Elementary P - S
	Elementary T - Z
	K-8
	Middle School A - L
	Middle School M - Z
	High
	Charter Schools
	Snack
	Supper
	Summer Feeding

# Menu Review for Tomato R/O

- <u>Utilizing Marinara / Spaghetti / Pizza Sauce as a Dipping Veggie</u>
  - Pizza Sticks / Cheesy Breadsticks
    - Pizza / French Bread Pizza
    - Chicken Tenders / Nuggets
    - Breakfast Entrée Companion?
  - <u>Utilizing Salsa as a Dipping Veggie with Mexican Entrees</u>
    - Offer as Veggie Option @ Lunch in correct quantities with Mexican Entrees
      - Breakfast Substitute for Fruit
        - HS Supper Menu Items
          - Supper
      - <u>Grab N Go Options Reimbursable Meal Options ??</u>

•

- Using Salsa and Sauce to make fun dipping vegetable combinations with Entrees
  - Salsa & Sauce Cups as Portable R/O Veg. Options
    - Supper
    - Summer
  - <u>Tomato Items at Breakfast Substituting a Tomato Veg for Fruit?</u>
    - Offering Tomato Juice
    - Adding back potatoes if 2 cup of any other veg category is menued

### To Stop Picky Eaters From Tossing The Broccoli, Give Them Choices

by LUKE RUNYON

September 24, 2014 6:34 PM ET

🐒 from

Consider Integrating MORE Shelf Stable Tomato Products



Students are given healthy choices on a lunch line at Draper Middle School in Rotterdam, N.Y., in 2012. To keep students from tossing out the fruits and vegetables they're served, researchers say it helps to give them a choice in what they put on their trays.

# Nutritional Benefits of Tomato Products



#### Carbohydrates

Nutrient	Amount	% DV
Total carbohydrates	7.1 grams	2%
Dietary fiber	2.2 grams	n/a
Starch	0.0 grams	n/a
Sugars	4.7 grams	n/a

#### Fats

Nutrient	Amount	% DV
Total fat	0.4 grams	1%
Saturated fat	0.1 grams	n/a
Monosaturated fat	0.1 grams	n/a
Polyunsaturated fat	0.1 grams	n/a
Total omega-3 fatty acids	5.4 mg	n/a
Total omega-6 fatty acids	144 mg	n/a

#### Sterols

Nutrient	Amount	% DV
Cholesterol	0.0 grams	0%
Phytosterols	12.6 mg	n/a

#### Other nutrients

Nutrient	Amount	% DV
Water	170 grams	n/a
Protein	1.6 grams	3%

#### **Calorie information**

Nutrient	Amount	% DV
Total calories	32.4	2%
From carbohydrate	25.5	n/a
From fat	3.0	n/a
From protein	4.4	n/a

## Nutritional Benefits of Tomato Products – All Forms!

#### Vitamins

Nutrient	Amount	% DV
Vitamin A	1499 IU	30%
Vitamin B1 (Thiamin)	0.1 mg	4%
Vitamin B2 (Riboflavin)	0.01 mg	2%
Vitamin B3 (Niacin)	1.1 mg	5%
Vitamin B5 (Pantothenic Acid)	0.2 mg	2%
Vitamin B6	0.1 mg	7%
Folate	27.0 mcg	7%
Vitamin C	22.9 mg	38%
Vitamin E	1.0 mg	5%
Vitamin K	14.2 mcg	18%
		-

#### Minerals

Nutrient	Amount	% DV
Calcium	18.0 mg	2%
Chromium	9.00 mcg	7.5%
Copper	0.1 mg	5%
Iron	.5 mg	3%
Magnesium	19.8 mg	5%
Manganese	0.2 mg	10%
Phosphorus	43.2 mg	4%
Potassium	427 mg	12%
Sodium	9.0 mg	0%
Zinc	0.3 mg	2%

**Serving size:** this information presents nutrient amounts for 1 cup fresh, chopped tomatoes (approximately 1/3 pound or 1 average size tomato)

## Approximate serving size equivalents:

8-10 cherry tomatoes 2-3 small tomatoes <u>1/8 cup tomato paste</u> 8 oz. canned tomatoes (1 c.) <u>½ cup tomato juice</u>



### **"Tomato-TRITION"**



TPWC (Tomato Products Wellness Council)

Be sure to visit "Tomatoes: One of the World's Healthiest Foods" at

www.tomatowellness.com/tomato-health-nutrition



**HEALTH AND NUTRITION** 

# Contacts /Resources for More Information Sharon Palmer, RDN (S.CA)

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- **The Plant-Powered Dietitian**<sup>™</sup>nutrition expert, journalist, editor, consultant to the TPWC,
- <u>author</u>, *The Plant-Powered Diet* & and the newly released *Plant-Powered for Life* (The Experiment) <u>The Plant-Powered Blog</u> Subscribe to the monthly Plant-Powered Newsletter! follow the plant-powered community: <u>www.sharonpalmer.com</u>

• Jodi Batten, SNS (Austin, Texas) 512-261-5060

• jbatten@redgold.com

• <u>Tomato Products Wellness Council (TPWC)</u> - <u>Tomato Nutrition Resources</u>

– <u>http://www.tomatowellness.com/</u>

- <u>Go\_Red@TomatoWellness.com</u>





# QUESTIONS

