Reducing Wasted Food at school

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Affiliation or Financial Disclosure

• National Cattleman’s Beef Association Speaker’s Bureau
Reducing Wasted Food at School Learning Objectives

• Objective 1: Explain how food waste is generated at school.
• Objective 2: Develop strategies to reduce wasted food at school.
• Objective 3: Provide solutions for the school cook to reduce wasted food.
Talkin’ trash

- 40% loss (US)
- 19% vegetables
- 387 billion calories unconsumed daily
- 52 million tons
- ½ # per day
Repositories of lost nutrition
96%: food in landfills

EPA.gov.

ers.

usda.gov

Adam Levine, Flickr Creative Commons
Not me!

- 7-minute life of a fry
- Ready-to-eat variety/quantity
- Imperfect vegetables
- Missed harvest
- Transportation glitch
- Buffets/catered events
- “I ordered scrambled”
- Excessive portions
- Uneaten leftovers
- School lunch
Home is where the...❤️ trash is

**FIGURE I: BREAKDOWN OF FOOD WASTE GENERATION BY SUPPLY CHAIN STAGE, AS ESTIMATED BY REFED FOR 2015**

- **HOUSEHOLDS 43%**
- **FARMS 16%**
- **MANUFACTURERS 2%**
- **GROCERY & DISTRIBUTION 13%**
- **RESTAURANTS (FULL & LIMITED SERVICE) 18%**
- **INSTITUTIONAL & FOODSERVICE 8%**

Note that by-products used for animal feed are not included.
Given that the goal of the school nutrition standards and meal patterns is to improve child nutrition, understanding how much food is wasted is of interest.

Right?
Southwest, preK- K, 2013

- 51.4% vegetables
- 51% of entrees
- 45.5% of milk
- 58.9% vegetables
- 44.8% fruit

wasted over the week
• Younger students (K-1) consumed less food they selected for lunch, and wasted more than older students.
• No grade consumed F/V, grains, protein, dairy = to NSLP menu pattern
• Younger students ate at 10:45 am; Older students 12:45 pm

J Acad of Nutr Diet 2017: 117 Shahrbanou F.
Food is a Weapon

Don’t Waste It!
Buy wisely - Cook carefully - Eat it all

http://history.ncsu.edu/projects
Buy Wisely
to reduce wasted food

- Seasonal
- Storage
- Quantity

www.LiveBest.info
Buy Wisely

• Optimize Quantities
  – order quantities to accurately match demand

• Produce Specifications Integrate Off-Spec
  – cosmetically challenged produce if cutting

• Inventory Management & Production Planning
  – Optimize systems to increase accuracy of purchasing and production planning
In the kitchen - storage

• Specify in bids that delivery is before or after service
• Move items to storage quickly to maintain proper temperature
• Inspect food for quality, temperature, use-by date
Buy Wisely
Sell-by, use-by, “confuse by”
— not standardized —

• **Sell-by** — *suggestion* for display in store
  • Still reasonable time to use

• **Best-by** — *recommendation* for best flavor/quality

• **Use-by** — *estimation* for peak quality
  • Rarely a safety concern

• *Do not use infant formula/baby food after date.*
Buy Wisely
Sell-by, use-by, “confuse by” Continued

- 50-90% misinterpret
Buy Wisely
Congress H.R.5298: Food Date Labeling Act of 2016

  - “BEST If Used By” describes product quality. Food may not taste/perform as expected but is safe.
  - “USE By” foods that are highly perishable or have a food safety concern; consume by date.
Buy Wisely
Digital Food Buying Guide

- Search yields
- Compare yields
- Save favorites
- Email and print

www.fns.usda.gov/tn/team-nutrition
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**Cook Carefully**

**Food Buying Guide Calculator, ICN**

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**Food Buying Guide**

*Calculator for Child Nutrition Programs*

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1. **Meat / Meat Alternatives**
2. **Vegetables**
3. **Fruits**
4. **Grains / Breads**

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**Welcome to Bright Ideas #ANC18**

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**About the Image:**

The image shows a screenshot of the Food Buying Guide Calculator, ICN. It includes a search bar, categories for different food groups, and a menu for selecting serving sizes and adding items to a list. The calculator is designed to help users make informed decisions about food purchases by providing detailed information on serving sizes and nutritional contents. The layout is user-friendly, allowing for easy navigation and quick access to detailed information for each food category. This tool is particularly useful for school nutrition programs aiming to maintain balanced and nutritious meal options for children.
Store Wisely

- **Room temperature:** banana, pineapple, ginger, winter squash, eggplant, basil
- **Cool, dark pantry:** potato, sweet potato, garlic, onion
- **Ripen at room temp then refrigerate:** avocado, kiwifruit, pear, peach, plum, mango

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Cook Carefully

Keep 🎨

Freezing Tips

CHERRIES

- Rinse cherries well and pack in dated freezer bag or freezer proof container.
- For fastest freezing, place bag/container directly on freezer shelves.
- Serve cherries partially frozen for best flavor. Try dipping in chocolate.
- Remove stems and pit, add to salads, sauces or toppings.

Information Per Serving

SERVING SIZE: 140 grams (about 50 or 1 cup or 21 cherries)
CALORIES: 90 kcal PROTEIN: 1g CARBOHYDRATE: 1g
FAT: 0g SODIUM: 0mg FIBER: 5g

VITAMIN A: 15% VITAMIN C: 15%
CALCIUM: 2% IRON: 1%

* Contains less than 2 percent of the US RDA of this nutrient

Check the Neck

FOR RIPENESS
Cook Carefully

to reduce wasted food

cook just enough
serve just enough

Photo courtesy of U.S. Department of Agriculture, Food Safety and Inspection Service
Taste is the #1 reason why a food is chosen over another

Improve TASTE with FLAVOR

• Searing meat deepens flavor
• Chopping herbs punches flavor
• Roasting vegetables enhances flavor
• Squeezing citrus brightens flavor
Cook Carefully
Culinary Techniques, ICN

Module 1: Fruits; Veg; Salads
Module 2: Meat, Poultry, Fish; Dry Beans & Peas; Pasta, Rice
Module 3: Soups; Dairy; Eggs; Sauces
Module 4: Cakes, Cookies, Pastry; Yeast/Quick Breads
Cook Carefully
Handling Fresh Produce, ICN

BEST PRACTICES
HANDLING FRESH PRODUCE IN SCHOOLS

Fruits and vegetables are an important part of a healthy diet. Introducing children to them in schools will improve their present and future health. Fresh produce must be handled safely to reduce the risks of foodborne illness. There are a number of steps that foodservice employees can take to minimize the chances for fruits and vegetables they handle to become contaminated. Best practices for handling all types of produce are described in this fact sheet, along with practices specific to leafy greens,
Cook Carefully
In the kitchen, train

• Standardize staff training:
  – optimized food preparation
  – batch cooking
  – specific portion sizes
  – repurposing of food trim and excess food

• Make clear in recipe books how many portions should be delivered from packaged ingredients.
In the kitchen

• Menu plan to cross utilize
  – 3 sauces that can be manipulated
  – How many ways can you use diced chicken?
• Adjust pan sizes and amounts
• Knife skills - Fabricate a melon
In the kitchen

• Cycle menus
  - Track product taken

• Before prepping, staff review leftovers from the prior day and reduce production levels accordingly
Estimate value for each item being discarded.

- Staff will realize how much the food they are throwing away costs
- Encourages them to think more creatively about re-use opportunities or ways to prevent that waste from occurring in the future.
Cook Carefully
Chef’s Choice

• Create menu items from surplus food and trim
  – Fruit yogurt dip
  – Turkey salad from turkey trim
  – Soup with vegetable trimmings
  – Vegetable/fruit trimmings make sauces or salsas

Photo, courtesy of National Dairy Council
Cook Carefully
In the kitchen

• Slice fruit
• Menu fresh produce earlier in week.

pixabay.com/en/mixed-fruit-fruit-healthy-food-3188335/
Cook Carefully
In the kitchen

• Roast vegetables
• Prepackage salads
• Serve local foods
“If you grow it, cook it, taste test it, they will eat it.” Donna Martin

- School gardens, tower gardens, herb pots
- 2X kids and adults choose locally grown
- Farmer’s want to grow for district
Cook Carefully tools

• “Is My Food Safe?” app, free ITunes
• USDA Ask Karen, food safety hotline FoodSafety.gov
• Food Safety and Inspection Service
• TeamFoodSafety.org, (FightBac) Partnership for Food Safety
• Food recall alerts: STOP Foodborne Illness info@StopFoodBorneIllness.org
• USDA’s FoodKeeper app, free Itunes
Eat it All

_to reduce wasted food_

home grown  use what you have  marketing
Make it

• Visible
• Easy to reach
• Attractive
• Fun
Eat it All
Salad Bars

• May help reduce plate waste by increasing fruit and vegetable consumption.

Scale back the salad bar after peak time by using smaller pans for product.
Eat it all

West Elementary - Butte: Milk Sales Masters

Students entering the cafeteria line would see the chocolate milk first.

By simply moving the white milk to be the first option, West Elementary School increased their white milk sales by 62%.
• Sampling the day’s entrée the previous day increased the percentage of students choosing school lunch (University of Vermont).
• DoD program
  – Students are exposed to variety
  – Kids eat 65 F/V
Eat it all

• Encourage USDA rules that allow students to refuse 2 of 5 food groups
• Let students take part of their lunch from the cafeteria to eat later.
Meatloaf Panini

- Crumble in corn/egg muffins
- Chunk into spaghetti sauce
Eat it all

Tortilla or pizza crust

@JudyBarbe
Eat it All

vegetables
Hummus, mac n cheese, rice bowl

Bulgur
Roasted
Veg
Salad

Carrot, ginger, coconut soup
Eat it all Salsa
tacos, meats/fish, salads

Watermelon salsa

Plum salsa

www.LiveBest.info
Eat it all
Cook apples, berries, pears

French toast, berries, yogurt
Eat it All

last-leg bananas
Smoothies, muffins, oats

Spiced banana oatmeal

www.LiveBest.info
systems in place

flavor enhancer, soup base, compost

tomato paste    chipotle peppers
Time to eat
to reduce wasted food
• Lunch periods closer to noon reduce waste, improve consumption. 10:45 vs. 12:45
• Longer lunch time – even 10 minutes reduces waste
  – 13% less entrée waste
  – 12% less vegetable waste
  – 10% less milk waste
• Recess Before Lunch
  – Schools that scheduled recess before lunch reduced food waste by 40%. Students ate 54% more fruits and vegetables (Brigham Young University)
  – 5 trash cans vs. 3 when recess before lunch implemented (Big Horn)
Feed Others

to reduce wasted food

back pack  shelters  schools  food pantries
Share Table

to reduce wasted food
Share table

• Students pick up what others may leave behind, reduces food waste.
• Kids can grab something extra to have for lunch or breakfast, without stigma.
Share

Afterschool program
Food Pantry
Forgotten lunch
Backpack program
Foodservice reuse
Know state and local health codes

- USDA guidance permits sharing, recycling and saving food and beverages, including milk,
- Some cities and states are more restrictive
Food donations are protected from liability under the Bill Emerson Good Samaritan Food Donation Act.

As long as the donor has not acted with negligence or intentional misconduct, the company is not liable for damage incurred as the result of illness.
Educate Students and Staff to reduce wasted food
No such thing as an ugly carrot

Photo by Judy Barbe
Student Led Donations

Fuel Up to Play 60, Food Recovery Network, The Campus Kitchens Project

Photos by Judy Barbe
Chesterbrook Elementary
McClean, VA

• Eco Team, run by sixth graders, teach students to separate waste
• Team collects, weighs, categorizes food
• PTA/community volunteers deliver food
• provided 13,502.6 pounds of food to their local food pantries
Educating about what goes where is a challenge.

- District created videos and flyers
- Garden signs detail how scraps help produce more food.
(re)purpose on stage
Measure to reduce wasted food
Wasted food drives up cost

When you see specific wasted menu items that you can quantify, THEN you can have meaningful dialogue and begin to solve problems.

EPA.gov, Used with permission
Tracking systems

• Capture:
  – weight (volume)
  – type (fruits, milk)
  – source (spoilage, overproduction)

• Use to improve operations
  – Reduce overproduction, menu change
USDA Student Waste Audit

• Learn what goes uneaten
  – Identifies WHY certain foods are thrown away
• Includes planning, data collection and analysis, conducting interviews
• Can be incorporated into math, science or community service
• Know how and where to reduce food waste
• Reduces cost of garbage collection
Audit reveal WHAT

212 UNFINISHED ITEMS

- miscellaneous
- apple
- bread
- burger
- chicken nuggets
- chicken sandwich
- cookies
- fries
- juice
- mash potatoes
- milk
- nachos
- pizza
- pineapple
- orange
- salad
- sandwhich
- stir fry
- hot dog
- carrots
- cheese sticks
- chicken burger
- rice
Student interview reveals WHY

![Graph showing reasons for choosing apples]

- bruised: 9
- doesn't like: 2
- forced to take one: 2
- full: 2
- sour: 1
- misc: 2
Student Waste Audit

Guide to Conducting Student Food Waste Audits

A Resource for Schools

www.usda.gov/oce/foodwaste/
Share the story

• Report improvements in newsletters, annual reports, and media stories.

Reduce Waste in Schools

www.epa.gov/epaoswer/education/toolkit.htm
What will you do?
EPA food waste reduction

- **Reduce** food waste through improved ordering, prepping, storage
- **Recover** wholesome food and donate it
- **Recycle** discarded food for animal feed, compost
### Solutions and Resources

- USDA.gov
- FNS and CNPP
- FoodWasteAlliance.org
- FurtherWithFood.org
- EPA.gov
- ReFED.com

- Waste-Free Kitchen Handbook, Dana Gunders
- NRDC.org
- LeanPath.com.
- www.montana.edu/teamnutrition/
This session provides one (1) CEU
– Key Area – Administration 3250
What To Eat: Shopping List

Kitchen Equipment, Tools and Such

The (Re)Purpose of Food

Cook Carefully

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