Upcoming Webinars

March 23  Share the Bounty: Gardening to Fight Hunger in Our Communities
Esther McGinnis, associate professor and Extension horticulturist, NDSU

March 30  Developing Safe Food Products
Byron Chaves-Elizondo, assistant professor and Extension food safety specialist, University of Nebraska-Lincoln

Please complete the short online survey that will be emailed to you after today’s webinar. It will take just a couple minutes!

Be sure to sign up for an opportunity to win a prize in the drawing. After submitting the survey, a form to fill out with your name/address will appear.

Acknowledgement: This project was supported by the U.S. Department of Agriculture’s (USDA) Agricultural Marketing Service through AM190100XXXG028. Its contents are solely the responsibility of the authors and do not necessarily represent the official views of the USDA.

March 16
Let’s Not Waste Food: From Storing to Composting
Julie Garden-Robinson, professor and Extension food and nutrition specialist, NDSU

Outline

- Food waste
- Strategies to reduce wasted food
- Food recalls
- Food preservation review
- Composting
- Resources to raise awareness

Acknowledgement: Food waste slides adapted from Honoring the Harvest, Midwest Dairy Council.
As you listen and interact:

- Write down 2 or more action steps that you could take.
- Post your list on your refrigerator.
- Check back on your progress in a few weeks.

### Food Loss vs. Food Waste

Food Loss vs. Food Waste

### Solid Waste Breakdown

- **Food waste** - 21%
- **Plastics** - 18%
- **Rubber, leather & textiles** - 12%
- **Wood** - 8%
- **Yard trimmings** - 8%
- ** Metals** - 9%
- **Glass** - 5%
- **Paper & paperboard** - 15%
- **Other** - 4%

### CHAT QUESTION

How much food (in pounds or ounces) does the average consumer throw away each day?

The average person throws away 1.1 pounds of food daily or 401.5 lb/year

40% of food produced in the U.S. is wasted.
40% of food produced in the U.S. is wasted.

Food Loss in the U.S. by Food Group

<table>
<thead>
<tr>
<th>Food Group</th>
<th>Estimated Total Amount (in billions of pounds and percent of total)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Added fats and oils</td>
<td>9.9, 7%</td>
</tr>
<tr>
<td>Grain products</td>
<td>18.5, 14%</td>
</tr>
<tr>
<td>Fruits</td>
<td>18.4, 14%</td>
</tr>
<tr>
<td>Vegetables</td>
<td>25.2, 19%</td>
</tr>
<tr>
<td>Dairy products</td>
<td>25.4, 19%</td>
</tr>
<tr>
<td>Meat, poultry, and fish</td>
<td>15.3, 12%</td>
</tr>
<tr>
<td>Eggs</td>
<td>2.8, 2%</td>
</tr>
<tr>
<td>Tree nuts and peanuts</td>
<td>0.5, 0%</td>
</tr>
<tr>
<td>Added sugar and sweeteners</td>
<td>16.7, 13%</td>
</tr>
</tbody>
</table>

Estimated Total Amount of Food Loss in the U.S. by Food Group, 2010

Where Does Wasted Food Occur?

<table>
<thead>
<tr>
<th>Sector</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Residential</td>
<td>17,369,754</td>
</tr>
<tr>
<td>Industrial</td>
<td>659,889</td>
</tr>
<tr>
<td>Grocery Stores</td>
<td>4,108,821</td>
</tr>
<tr>
<td>Full Service Restaurants</td>
<td>7,501,380</td>
</tr>
<tr>
<td>Quick Service Restaurants</td>
<td>5,100,724</td>
</tr>
<tr>
<td>Institutional</td>
<td>4,000,000</td>
</tr>
</tbody>
</table>

U.S. Food Waste Disposal Data – Breakdown by sector

Total = 39.7 million tons

Wasted Food has Widespread Consequences

Food Security Impact

1 in 7 Americans is Food Insecure
Tips to Avoid Wasting Food

• Be aware of how much food you throw away.
• Don’t buy more food than can be used before it spoils.
• Plan meals and use shopping lists. Think about what you are buying and when it will be eaten. Check your fridge and pantry to avoid buying what you already have.
• Avoid impulse and bulk purchases, especially produce and dairy that have a limited shelf life. Promotions encouraging purchases of unusual or bulk products
• Use your freezer!
• Consider requesting smaller portions when eating out OR freeze your leftovers.

Food Recalls

Types of Recalls

• Class I: Recalls for products which could cause serious injury or death;
• Class II: Recalls for products which might cause serious injury or temporary illness;
• Class III: Recalls for products which are unlikely to cause injury or illness, but that violate FDA regulations.

FDA-regulated Products Subject to Recall

• human drugs
• animal drugs
• medical devices
• radiation-emitting products
• vaccines
• blood and blood products
• transplantable human tissue
• animal feed
• cosmetics
• about 80 percent of the foods eaten in the United States

Recalls and Food Waste

A recall means a food producer (or government agency) takes a product off the market because there is reason to believe that it may cause consumers to become ill.

- Discovery of organisms, such as Salmonella or parasites such as Cyclospora.
- Discovery of foreign objects such as broken glass or metal.
- Discovery of a major allergen that does not appear on the product label.

- Products recalled due to an undeclared allergen may be a risk for anyone in your household with an allergy to that substance.
  - If the product has never been served, throw it away or return it for a refund.
  - If the product has been served, wash with soap and water any surfaces – plates, pots and pans, utensils, and counters – with which the product may have had contact.
Recalled Food and Contamination

- Recalls due to bacteria/parasite could contaminate your kitchen.
  - Wash all cookware and utensils (including cutting boards) with hot soapy water.
  - Clear off counters and refrigerator drawers and shelves and wash them with hot soapy water.
  - Wipe any surfaces, shelves, or drawers and rinse dishes and cookware with a sanitizing solution and let them air dry.
    - Diluted bleach solution (1 TBSP unscented, liquid chlorine bleach in 1 gallon of water).

Food Product Dates

- Date labels are voluntary - not required.
- Most are not “expiration dates” except baby foods.
- Dates indicate freshness so companies can convey when the product is at its peak.

Chat Question

- How long can you typically store eggs at home?
  - Indicate days or weeks.
- Best before/by: best flavor and quality (still safe)
- Use by: usually have a 1-week “grace period” to consume the food
- Sell-by: store date, on dairy, eggs, meat (store date)
  - Eggs can be used 5 weeks after carton date
Resources

- “NDSU Extension Food Storage Guide” and “NDSU Extension Food Freezing Guide”
- Google “NDSU Extension Food and Nutrition”
- Google “NCFSEN” for the North Central Food Safety Extension Network with links to 12 states’ resources
- FoodKeeper app (search on apps on phone)

STRATEGIES TO REDUCE/REUSE WASTED FOOD: COMPOSTING

“Raise your hand” by clicking on the hand icon if you have a compost bin.

Benefits

- Enriches soil and helps maintain moisture
- Reduces need for chemical fertilizers
- Encourages production of beneficial bacteria and fungi
- Reduces waste
- Reduces methane emissions

What Can I Compost?

<table>
<thead>
<tr>
<th>Greens</th>
<th>Browns</th>
<th>Water</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Food scraps</td>
<td>• Trees</td>
<td>• Essential for the success of the living ecosystem</td>
</tr>
<tr>
<td>– Apple cores</td>
<td>– Branches</td>
<td></td>
</tr>
<tr>
<td>– Leafy greens</td>
<td>– Leaves</td>
<td></td>
</tr>
<tr>
<td>– Onion skins</td>
<td>– Shredded paper</td>
<td></td>
</tr>
<tr>
<td>– Egg shells</td>
<td>– Newspaper</td>
<td></td>
</tr>
<tr>
<td>– Banana peels</td>
<td>– Saw dust</td>
<td></td>
</tr>
<tr>
<td>– Potatoes</td>
<td>– Wood chips</td>
<td></td>
</tr>
<tr>
<td>– Coffee grounds</td>
<td>– Cardboard</td>
<td></td>
</tr>
<tr>
<td>– Annual weeds</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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</tr>
</tbody>
</table>

What Can’t I Compost?

- Meat, fish, bones and scraps
- Fats, grease, lard or oils
- Dairy products
- Pet waste
- Yard trimmings (treated with chemicals)
- Weeds with mature seed heads
- Charcoal (unless additive free and then in small amounts)
- Diseased or insect-ridden plants
Composting at Home
See NDSU Extension handout

How Long Does it Take?
• With frequent turning, compost can be ready in about three months.
  – Dependent on season and temperature
  – Size of compostable materials
  – Size of pile

How to Use
• Spread up to 3 inches on the top of soil and work it into the soil about 8 to 12 inches.
• For vegetable or flower gardens, apply a layer every year.

STRATEGIES TO REDUCE WASTED FOOD: FOOD PRESERVATION

Raise your hand by clicking on the hand icon if you have ever preserved food.

Use Tested Resources
Research on food preservation began in the 1940s.
USDA canning guidelines underwent a major overhaul in 1994, and in 2006 canning guidelines were reviewed and revised.
Canning Vegetables and Mixtures

Unless you can foods properly, you could put yourself at risk for botulism.

Food Preservation Methods

Avoid wasted food – and wasted efforts by using research-tested methods.
- Freezing
- Drying
- Jams, jellies
- Pickling
- Canning

Freezing Vegetables

For best quality, most vegetables should be heat-treated (or blanched) in boiling water for the recommended length of time.

Freezing

Use freezer containers to avoid freezer burn, or dehydration.

Freezer burn is a quality issue not a safety issue.

Store Frozen Foods at 0 Degrees or Lower

<table>
<thead>
<tr>
<th>Temperature (°F)</th>
<th>Length of Storage</th>
</tr>
</thead>
<tbody>
<tr>
<td>0° F.</td>
<td>1 year</td>
</tr>
<tr>
<td>5° F.</td>
<td>6 months</td>
</tr>
<tr>
<td>10° F.</td>
<td>3 months</td>
</tr>
<tr>
<td>15° F.</td>
<td>6 weeks</td>
</tr>
<tr>
<td>20° F.</td>
<td>3 weeks</td>
</tr>
<tr>
<td>25° F.</td>
<td>10 days</td>
</tr>
<tr>
<td>30° F.</td>
<td>5 days</td>
</tr>
</tbody>
</table>

Botulism outbreak in North Dakota in 1931 eventually led to 13 deaths, including five people in one family. The source of the toxin was improperly home-canned vegetables.
Process Jams and Jellies

- Process all jams and jellies in a water bath canner to inactivate molds, yeast and bacteria.
- Cool and remove screw bands after about 12 hours.
- Don’t seal with paraffin wax.

Pickling Rules

- Do not alter vinegar, food, or water proportions in a recipe or use a vinegar with unknown acidity.
- Use vinegar with 5% acetic acid.
- Use only recipes with tested proportions of ingredients.

Unsafe Methods

- Canning in an oven is NOT SAFE.
- Don’t use other appliances, either.
  - Microwave
  - Dishwasher

Reducing food waste has been a concern for a long time.

Repurposing Wasted Food: Food Donation and Compost
The ‘Ugly Food’ Movement

“In America, one in five fruits and vegetables grown don’t fit grocery stores’ strict cosmetic standards – the crooked carrot, the curvy cucumber, the undersized apple – usually causing them to go to waste.” – Imperfect Produce

U.S. Food Waste Challenge

2013

Food Recovery Challenge

Goal to Reduce Wasted Food by 50% by 2030

Wrapping Up

• Write down or text yourself your goal(s) for reducing food waste.

• Place where you will see your note.

Questions?

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More information: www.ag.ndsu.edu/food