

What is Food Waste and Why Should it Concern Us?

Did you know that about a third of all the food produced does not end up where it is intended to end up -- on our plates? Food waste is food that is not eaten and eventually wasted. It could also be food that doesn't get consumed because it was discarded or spoiled. Whatever the reason, the effects of food waste are damaging to our environment. Some of the damaging effects are biodiversity loss, an increased carbon footprint, economic consequences, and a wastage of water. Most wasted food ends up in landfills, where it generates methane -- a greenhouse gas that is up to 86 times more powerful than carbon dioxide. Here are some interesting facts about food waste and things you can do to prevent it.

Why do we waste so much food?

- ☐ Around 80% of Americans misunderstand what the label says and think that their food is expired when in reality it's not.
- ☐ People buy too much excess food -- 40% of the food you buy becomes food waste
- ☐ Crops can go bad while traveling over long distances, which make them unable to be eaten = thrown away



How much food is wasted?

We are wasteful every single day of the year and most food is thrown out in the landfill. Food Waste is the single largest component taking up space inside the U.S. landfills.

Ways to stop:

- ☐ Preserve food better
- ☐ Only buy foods that you are going to need
- ☐ Save/eat leftovers
- ☐ Compost food scraps
- ☐ Learn how to meal prep
- ☐ Grow your own produce at home



Planting Seasons

Warm Seasons: April to September

- Crops should be planted so that they mature when temperatures are above 50 degrees Fahrenheit, preferably when it is 75 degrees Fahrenheit or warmer.
- Crops must be protected if the temperature is below 50 degrees Fahrenheit.
- Warm season vegetables are tender, meaning they are easily affected by frost or cold weather.
- Tender vegetables cannot handle frost and thrive in temperatures between 70 to 90 degrees Fahrenheit so that their growth isn't stunted
- Tender vegetables they should be planted three weeks after the last frost in spring.

Tips for Fruits and Nuts:

- ☐ **Make sure your soil is well-drained**
- ☐ **Fruit need at least 8 hours of sun exposure**
- ☐ **Irrigate fruit trees multiple times per season to maximize growth and amount of fruit produced**

Tips for a Vegetable Garden:

- ☐ **Plant your vegetables in a sunny location because they need at least 6-8 hours of sun**
- ☐ **Remove weeds, loosen the soil, and use compost to prepare the soil**
- ☐ **Follow the planting chart to ensure that you plant your vegetables at the right time**
- ☐ **Water your vegetables so that they grow well, but don't overwater them**

Cool Seasons: September to April

- Crops can be harvested in the spring, fall, or winter during cool weather.
- In Northern California, plant cool season vegetables during January through April in cool temperatures as low as 40 degrees Fahrenheit.
- Cool season vegetables are hardy and half hardy.
- Hardy vegetables can tolerate cold the best and are planted 2-4 weeks before the last frost in the spring.
- Half hardy vegetables can handle light freezes and grow when the minimum temperature is between 40 and 50 degrees Fahrenheit and can be planted two weeks before the last spring frost.

Planting Charts

Fruit/Nut	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Almond	X	X										
Apple	X	X	X									
Apricot	X	X										
Aprium	X	X	X									
Avocado			X	X								
Blackberry	X	X	X									
Blueberry	X								X	X	X	X
Cherry	X	X										
Fig			X	X								
Grape		X	X									
Grapefruit			X	X	X	X	X	X	X			
Kiwi	X											
Lemon			X	X	X	X	X	X	X			
Loquat			X	X	X	X	X	X	X			
Mandarin			X	X	X	X	X	X	X			
Nectarine	X	X	X									
Orange			X	X	X	X	X	X	X			
Peach	X	X	X									
Pear	X	X	X									
Plum	X	X	X									
Prune	X	X	X									
Raspberry	X	X	X									
Strawberry								X		X		

Vegetable	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Artichoke									X	X	X	X
Asparagus	X	X	X							X	X	X
Basil				X	X	X						
Beans				X	X	X						
Beets	X	X	X	X	X	X			X	X		
Bok Choy		X	X	X					X	X		
Broccoli		X	X	X			X	X	X	X		
Brussels Sprouts	X	X	X	X			X	X	X			
Cabbage	X	X	X	X			X	X	X	X		
Carrots	X	X	X	X	X		X		X			
Cauliflower		X	X	X		X		X	X	X		
Celery			X	X	X	X						
Chiles				X	X	X						
Cilantro		X	X	X	X	X		X	X	X	X	
Corn			X	X	X	X	X					
Cucumbers			X	X	X	X						
Eggplant			X	X	X	X						
Garlic									X	X	X	X
Green Onions			X	X	X	X						
Kale	X	X	X	X	X			X	X	X	X	
Lettuce	X	X	X	X	X			X	X	X	X	
Onions											X	X
Parsley	X	X	X	X	X	X						X
Peas		X	X						X	X		
Peppers				X	X	X						
Potatoes		X	X	X	X							
Pumpkins					X	X						
Spinach		X	X	X					X	X	X	
Summer Squash				X	X	X	X					
Sweet Potatoes					X	X						
Tomatoes				X	X	X						
Winter Squash					X	X						
Zucchini				X	X	X	X					

Certified vs. Non-Certified Food Labels

What is a Food Label?

A food label is a graphic of a logo that can signify how a product was sourced or made.



Certified or Non-Certified?

Certified food labels are used when the claim of processes about the product is regulated and is held to a set of substantial standards.

How Some Labels are Misleading

Even though some food labels advertise that a product is “Made with Organic” ingredients or “Free Range”, it may not be to the extent that you believe. Non-certified food labels tend to be misleading to the buyer due to the lack of regulation.

Examples of Certified Food Labels



Regulated by USDA's National Organic Program, an “organic” product must contain at least 95% organic ingredients.



Products labeled “Fair Trade Certified” are made with following guidelines, enforced by FLO*, that concern the treatment of the workers creating them.



The Animal Welfare Institute states that AWA products raise their animals using standards that protect their well-being.

*Fairtrade Labelling Organizations International

Examples of Non-Certified Food Labels



USDA doesn't monitor rules for free range poultry or eggs. Animal products advertised as free range regards a wide range of time an animal spends “outside”.



Food simply labeled as grass fed and not “American Grass Fed” is not regulated by any party. USDA's pre-existing grass fed claim has been withdrawn and is not verified.



Food items labeled as “clean” are commonly used by companies as a marketing tactic to make the consumer feel better about using the item.

Food Traceability

Ever wonder how the food you bought from the grocery store traveled all the way from a farm, to a local market, and ended up in your kitchen?

Food Traceability:

The ability to track a food item while it is being produced, processed, and distributed for safety reasons.

How to Figure Out the Traceability of an Item:

Scan the QR code with the camera app on your phone
It will direct you to a link that will tell you when and where the item was grown, and more.

Food Traceability Helps Food Companies to Monitor:

- ☐ Recalls
- ☐ Contaminations
- ☐ Spoilage
- ☐ Foodborne illnesses



Food traceability allows people to realize how many food miles it takes to transport their goods from the producers to the consumers.

Food Miles:

The distance that it takes to transport their goods from the producers to the consumers.

Why Should You Eat Locally Grown Food?

When grocery shopping, most shoppers don't consider their carbon footprint when purchasing goods that involve major transportation methods. Currently global warming and climate change have become a major issue and transportation methods such as trucks, airplanes, and boats have only added to the problem by releasing tons of carbon into the atmosphere. With food traceability becoming more popular, shoppers are more aware of the environmental cost of purchasing groceries grown in other places in the world. An easy solution to help our planet is to eat locally grown food.

What it Means to Eat Locally: to purchase/eat foods that are grown, produced, processed, and sold relatively close to where you live.

Benefits of Eating Locally:

- Lowers the amount of daily carbon emissions
- Produce is riper and fresher
- Helps support our local farmers and workers
- Food has less chances for contamination
- More access to connect to the actual farmers

Ways to Eat Locally:

- ☐ Visit your local farmer's market
- ☐ Join a CSA (Community Supported Agriculture)
- ☐ Make your own garden
- ☐ Go to a farm-to-table restaurants
- ☐ Sign up for a farm-to-table delivery program

* Farm-to-table means that the food came directly from a specific farm, without going through a store or market along the way.

Local Farmers Markets:

- San Jose Japantown CFM
- Campbell CFM
- Los Gatos CFM
- Santa Clara CFM

Local Farm-to-Table delivery programs:

- Farm Fresh to You
- Golden Gate Organics
- Greenhearts Family Farm

Local Farm-to-Table

Restaurants:

- The Table
- Mendocino Farms
- The Farmers Union



GMOs vs Organic

During our Sow What Journey we also explored the idea of GMOs. We watched a video called Food Evolution by Scott Hamilton Kennedy, which explained how GMOs are being used throughout the world. By watching it, we learned about one of the most recognized GMO plants known as the rainbow papaya in Hawaii. However, before going more in depth about the rainbow papaya, we should go deeper into the meaning of GMOs.



GMOs

- **Stands for genetically modified organisms**
- **Scientists specifically isolate a gene from one organism to cut and add into another**
- **U.S. GMO foods are regulated by the FDA, USDA, and Environmental Protection Agency to ensure they are safe to eat**

ORGANIC

- **Rely on biological pest management, composting, manure applications, and crop rotation to maintain healthy soil**
- **95% of the foods used must be up to USDA organic standards weight to be labeled organic**

Now that we know what GMOs are, let's go more in depth about the rainbow papaya. In Hawaii, papaya has been a constant in their economy; however, there was a drop when a disease called ringspot virus had been decreasing the amount of papaya being grown. In order to prevent the extinction of the papaya, scientists resorted to making a hybrid papaya by using the genes of the two different breeds of papaya. This new papaya was called the rainbow papaya and was resistant to the ringspot virus. By using GMOs the papaya industry was saved. As a consumer it still might be scary to see something that was genetically modified, but multiple studies have shown that GMO foods such as the rainbow papaya have no negative effects on your health. Of course, organic farming can reduce environmental issues by using less fossil fuels, having less contamination with pesticides and herbicides, and improving soil. It is honestly up to you, the consumer, to decide which food products you choose to buy, but hopefully this information made GMOs less scary and an easier topic to approach.

NUTRITION

Did You Know: The % Daily Value section on the nutritional facts panel displayed on food packaging is based on consuming a 2000 calorie diet. However majority of people do not need to consume 2000 calories daily. You can determine how many calories your body needs daily by calculating your Basal Metabolic Rate (BMR) to get to your Total Daily Energy Expenditure (TDEE).

BMR is a measure of a person's metabolism, to calculate your BMR you can use the Harris Bennet Equation.

Women: $BMR = 655 + (4.35 \times \text{weight in pounds}) + (4.7 \times \text{height in inches}) - (4.7 \times \text{age in years})$

Men: $BMR = 66 + (6.23 \times \text{weight in pounds}) + (12.7 \times \text{height in inches}) - (6.8 \times \text{age in years})$

To get your TDEE you can multiply your BMR by your daily activity level.

Sedentary - BMR X 1.2

Lightly Active - BMR X 1.375

Moderately Active - BMR X 1.55

Very Active - BMR X 1.725

Extra Active - BRM - 1.9

Once you know your TDEE it makes it easier to know how much of each nutrient your body actually needs. We can use the nutritional facts panel to help us understand how the food we eat affects our bodies and to help us make better decisions on what we consume.

Nutrition Facts	
Serving Size 2 tortillas (51g)	
Servings Per Container 6	
Amount Per Serving	
Calories 110	Calories from Fat 10
% Daily Value*	
Total Fat 1g	2%
Saturated Fat 0g	0%
Trans Fat 0g	
Cholesterol 0mg	0%
Sodium 30mg	1%
Total Carbohydrate 22g	7%
Dietary Fiber 2g	9%
Sugars 0g	
Protein 2g	
Vitamin A 0%	• Vitamin C 0%
Calcium 2%	• Iron 4%
*Percent Daily Values are based on a 2,000 calorie diet. Your daily values may be higher or lower depending on your calorie needs:	
	Calories: 2,000 2,500
Total Fat	Less than 65g 80g
Saturated Fat	Less than 20g 25g
Cholesterol	Less than 300mg 300mg
Sodium	Less than 2,400mg 2,400mg
Total Carbohydrate	300g 375g
Dietary Fiber	25g 30g
Calories per gram:	
Fat 9 • Carbohydrate 4 • Protein 4	

*nutritional label for flour tortillas

Fun Fact: The FDA sets the limits for the daily values of certain nutrients to maintain a healthy lifestyle.