



Culinary Institute  
of America

# Day 3: Sourcing, Storage, Meal Planning

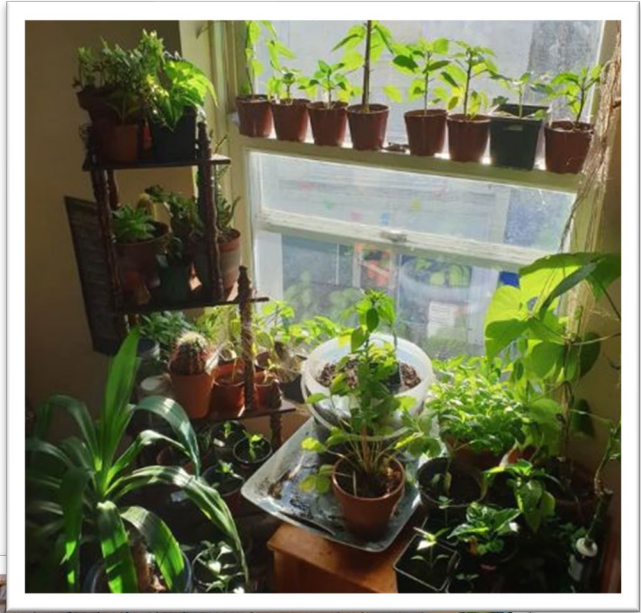


# Learning Objectives

- Understand the methods of sourcing plant-based foods.
- Distinguish between the different types of food production.
- Understand how to store produce to prevent oxidation and premature spoilage.
- List the different methods of food preservation and how to store them.
- Understand how to plan, prep, and cook vegetarian meals for optimal nutrition, presentation, originality, and flavor.
- Prepare grains, vegetables, and sauces in advance.
- Prepare a variety of vegetarian dishes using standardized recipes.

# Sourcing Plant-Based Ingredients

- **Search locally:** Farmer's markets, small grocers, or "local" sections in a grocery store
- **Visit farms:** Purchase produce, dairy, & eggs at lower prices
- **Community Supported Agriculture:** Buy a share & get produce during the growing season
- **Consider seasonality:** Produce is cheaper & more flavorful during its season
- **Remember sustainability:** Consider the ethics of businesses you support
- **Grow it yourself:** Organic, cheap, trustworthy



# Types of Food Production



- **Organic:** growing crops without synthetic chemicals; using natural fertilizers & pest control
- **Subsistence:** food production for the farmer's family; with little or no surplus for sale
- **Commercial:** large-scale farming focused on producing crops/ livestock for profit & market sale

# Types of Food Production

- **Permaculture:** mimics natural ecosystems to create self-sufficient agriculture
- **Biodynamic:** a holistic farming method combining sustainability with spirituality
- **Hydroponic:** growing plants without soil, using nutrient-rich water solutions
- Hydroponic, organic, & permaculture are best to support plant-based diets



# Storing Produce

- Properly storing produce reduces waste, improves flavor
- Store herbs wrapped in paper towels or held in water
- Avoid washing produce far in advance to increase shelf-life
- Store produce dry to slow spoilage
- Keep ethylene-producing fruits (apples, bananas, etc.) separately
- Store root vegetables away from sunlight

**KEEP YOUR FRUITS & VEGETABLES FRESH**

**Countertop**  
Ripen at room temperature before placing in the fridge.

Peach, Pear, Cantaloupe, Tomato, Banana, Avocado, Orange

& These:  
• Cucumbers  
• Kiwis  
• Mango  
• Watermelon  
• Nectarines  
• Pineapple  
• Plums  
• Grapefruits

**Fridge**  
Some fruits release ethylene gas that spoil vegetables, so store fruits separately in the fridge.

Grapes, Apples, Cherries, Berries, Lemon/Lime, Pepper, Brussel Sprouts, Cabbage, Broccoli

& These:  
• Cilantro  
• Parsley  
• Spinach  
• Kale  
• Carrots  
• Celery  
• Raspberries  
• Mushrooms

**Pantry**  
Store these items in a cool, dry, dark place, such as your pantry.

Onion, Garlic, Sweet Potato, Potato, Pumpkin, Eggplant

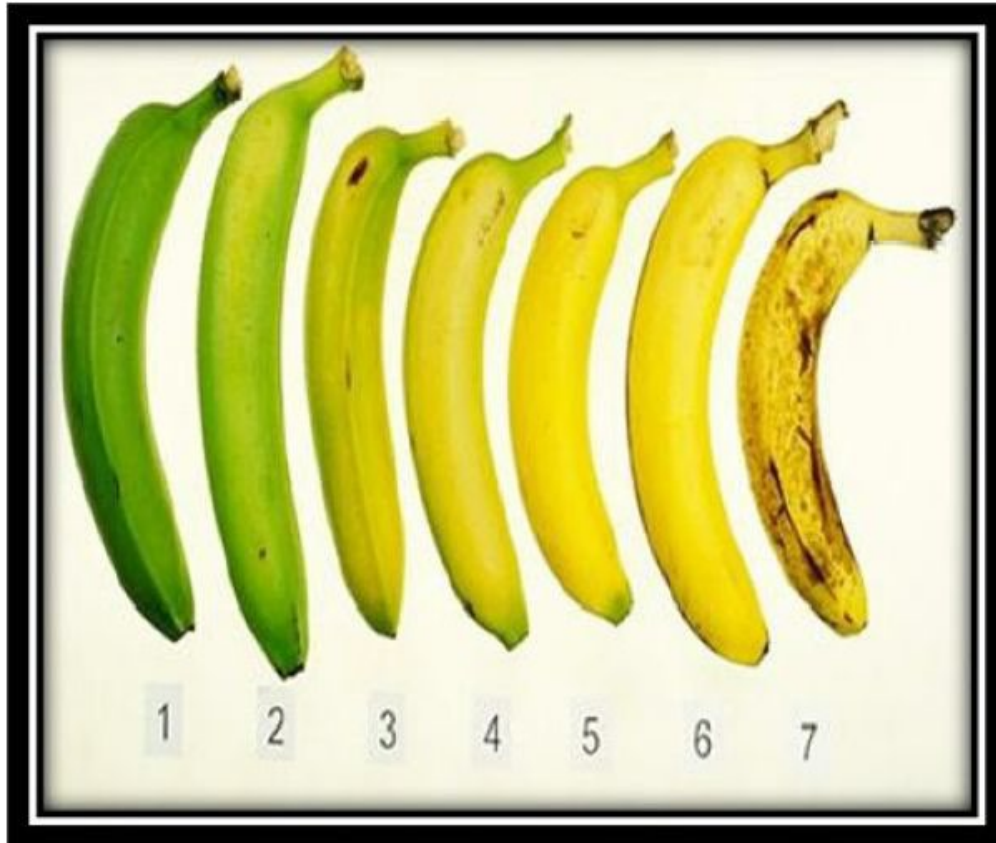
& These:  
• Green beans  
• Summer Squash  
• Zucchini  
• Basil  
• Ginger  
• Winter Squash

**Freezer**  
Freezing fruits and veggies is a handy way to preserve them and reduce food waste.

Broccoli & other green veggies, Berries & Grapes, Veggie Bits for Soup Making

Cut & Put in Freezer:  
• Asparagus  
• Avocados  
• Bananas  
• Corn  
• Leafy Greens  
• Fresh Herbs  
• Zucchini

# Stages of Ripeness



- 1. Unripe:** Firm, green, sour, & bitter fruit
  - 2. Ripening:** Softer texture, sweeter flavor, & darker color
  - 3. Overripe:** Mushy, overly sweet/ sour, brown spots
- **Climacteric fruits:** bananas, tomatoes, mangoes, apples; continue ripening after harvest
  - **Non-climacteric fruits:** grapes, strawberries, citrus, pineapples; will not ripen after harvest

# Oxidation

- **Enzymatic browning:** When cut fruits/vegetables turn brown when exposed to air
- Leads to breakdown of vitamins C, A, E
- Common in apples, bananas, avocados, potatoes

## To avoid oxidation:

- Keep produce whole
- Submerge cut produce in water
- Store in cold airtight containers
- Coat produce in lemon juice
- Blanch produce before using



# Preventing Food Spoilage

- **Proper storage:** Keep cold foods below 40 °F & dry goods in airtight containers
- **First In, First Out:** Use older stock before newer deliveries
- **Temperature control:** Cook, chill, & hold foods at safe temperatures
- **Control Inventory:** Pay attention to stock & avoid double buying foods
- Preventing food waste holds environmental, economic, & social importance



# Methods of Food Preservation



- **Canning:** 1:1 ratio of vegetables to liquid
- **Pickling:** 1:1 ratio of vinegar to water
- **Fermenting:** 2-5% salt by the total weight of vegetables & water combined
- **Fruit preserves:** 1:1, 2:1, or 60%/40% ratio of fruit to sugar
- **Freeze-drying:** Can be eaten dried or rehydrated, retains 90% of nutrients
- Food preservation reduces costs, food waste, & increases food availability

# Storing Canned Items

- Label & date the jars
- Store in a cool, dark, dry place
- Examine jars regularly for bulging, rusting, leaking, spoilage
- Store canned foods at 50-70°F or refrigerated at 35-38°F
- A HACCP plan must be in place for commercial establishments



# Meal Prepping & Menu Planning



- Plant-based cooking often requires meal prepping
- Beans, some grains must be soaked in advance
- Chopping & cooking vegetables can be time consuming
- Grain bowls, soups, curries, roasted vegetables reheat well
- Plant-based menu planning should consider nutrient balance, originality, flavor

# Prepping Cooking Grains

- Cooked grains can be stored under refrigeration for 3 days
- Add grains to soups, salad, and health bars for extra protein & fiber
- Common whole grains include quinoa, brown rice, farro, barley
- Cooking grains in bone broth adds protein, collagen, & minerals



# Prepping Vegetables

- Vegetables should be washed, peeled, & trimmed close to consumption
- Cut vegetables can be stored in water/ an airtight container with a wet paper towel on top
- Cut vegetables uniformly for even cooking, texture
- Leave skin on when able
- Use vegetables of different colors for better presentation & more antioxidants



# Cooking Vegetables



- Cook green vegetables without acid to preserve color
- Roots should always start in cold water
- Broccoli, spinach, lettuce lose up to 50% of their vitamin C when boiled
- 40% of B vitamins and minerals are lost during grilling/ broiling
- Short cooking times, reduced heat exposure are best
- Consuming vegetables raw allows for full absorption of nutrients

# Prepping Sauces

- Vinaigrettes, relishes, pickles, chutneys can be homemade
- Store-bought products often contain higher sugar, sodium
- Prep and store sauces in air-tight glass jars
- Store in the refrigerator for 1 week and up to 3 months





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Any Questions?