

Lesson 1: Introduction and Planting

Nutrition topic: introduce the program and CBH, go over packets and handouts, and ask what participants want to learn from the series.

Gardening topic: Planting and Irrigation optional container gardening recommendations

Recipe Demonstration: Instructor Choice, focus on produce that will be included in the garden. Follow the FRESH recipe guidelines.

Objectives:

Participants will be able to:

- Define the Create Better Health (SNAP-Ed Program)
- Describe the purpose of the Dietary Guidelines for Americans.
- Distinguish the difference between cool- and warm-season crops.
- Identify the timing for planting and plant appropriately in the garden.
- Practice appropriate irrigation for plant establishment and/or seed germination.
- Optional: Demonstrate safe movement in the garden.

Preparation Required

- Watering Schedule

Required materials

- Water source
- Seed packet
- Seedling

Required handouts:

- Series schedule
- Start Simple with MyPlate
- Warm and cool season crops and planting methods

Nutrition topic: Introduction to series and CBH, ask what participants want to learn from this series.

Welcome and Introduction

Create Better Health Utah (SNAP-Ed)

What is Create Better Health?

- Create Better Health is Utah's SNAP-Ed Program. SNAP-Ed is the nutrition education component of the Supplemental Nutrition Assistance Program, or SNAP.
- The Create Better Health program is offered through Utah State University Extension offices.
- Create Better Health teaches people who have limited time and money how to eat well and be active. Our classes focus on teaching participants how to make delicious and nutritious meals from foods they already have on hand.
- All the information you will receive in the Create Better Health classes is based on the USDA's nutrition and physical activity guidelines.

- Each class is designed to build upon the previous lessons. After attending the series, you will have the knowledge and skills to lead a healthy lifestyle.

The Dietary Guidelines: An Overview

- The current nutrition recommendations established by leading nutrition and health experts in the U.S. are known as the Dietary Guidelines for Americans.
- They are intended for all healthy children and adults throughout the entire life cycle, from infancy through adulthood. They are updated every five years. When followed, these recommendations may help avoid or delay the most common health problems we face in our country today, including obesity, diabetes, high blood pressure, heart disease, stroke, and some cancers.
- All recommendations for diet and physical activity choices in the Dietary Guidelines are evidence-based. This means there is strong scientific evidence supporting each recommendation for what to eat and how often we should exercise.

Introduction to Create Healthy Gardens

Create Healthy Gardens is a six-class series. In each class, participants will gain the knowledge and skills necessary to grow their own garden. CHG is a partnership between USU Extension's Create Better Health and Master Gardener programs. Participants will grow vegetables in local community gardens and attend monthly workshops taught by nutrition educators and Master Gardeners (in select counties). These workshops focus on gardening tricks and nutrition tips. It is expected that by the end of the gardening season, participants will eat more vegetables and have the confidence and skills needed to grow a garden in the future.

Discussion starter: "What are you hoping to learn from this series?"

Set up communication channels and establish a water schedule.

Text messages, Group Me, or WhatsApp are each good options for communication channels

Gardening topic: Planting and Irrigation

Planning

Start with a plan

- What will I plant?
 - Foods you like and will eat
 - Food you can preserve, sell or trade
 - Something new
- Where will I plant it?
 - Container
 - Raised bed
 - In ground
- How will I plant it?
 - Seeds
 - Transplant

- How will I care for it?
 - Watering needs
 - Weeding schedule
 - Fertilizing

Growing Conditions

Plants need the right environment to grow well.

Here are a few key factors:

1. Sunlight—some plants need full sun (6+ hours a day), others prefer partial shade (3-6 hours), or full shade (less than 3 hours)
2. Soil—Good soil is loose and rich in nutrients. Some plants like sandy soil, while others might prefer more clay soil.
3. Water—Most plants need regular watering, but not too much. The soil should be moist but not soggy. Use your finger, as mentioned in irrigation information, to keep accurate moisture.
4. Temperature—Some plants like warm weather (tomatoes, peppers), while others prefer cooler temperatures (lettuce, spinach). This is discussed more with cool and warm season crops.
5. Space—Give plants enough space to grow. Crowded plants compete for sunlight, water, and nutrients. Correct spacing for plants are listed on seed packets.
6. Nutrients—Plants need food! Compost or fertilizer can help them grow strong. A deficient plant is more susceptible to pests and disease.
7. Protection—watch for pests, weeds, and extreme weather conditions.

Type of crop

Heirlooms

- Heirloom vegetable varieties can be heirlooms. These are the family favorites that parents and grandparents saved, seeds to plant year after year.
- Did you know? There are families in Carbon County that are still planting the same variety of cucumbers brought from Greece over 100 years ago.
- Heirloom varieties are open-pollinated, which means if the seeds are collected and grown again, they will produce more vegetables of the same type.
- Heirloom varieties are often praised for having superior flavor.

What to expect with Heirloom crops

- Will have less uniform yield—varied harvesting
- May have a less uniform plant size -will have varied sizes and shapes
- May be less disease-resistant, more prone to disease
- Can be grown from saved seeds
- Save money year to year and have high quality seeds for next season.

These are examples of popular heirloom varieties.

- Brandywine and San Marzano are a couple of commonly grown heirloom tomatoes.
- Detroit beets
- French breakfast radishes
- Danvers long carrots are some other favorite heirlooms

Hybrids

Hybrid varieties are not open-pollinated.

- Instead, two varieties of the same species intentionally cross to combine their best traits.
 - Hybrids often have bigger fruit, larger yields, and improved disease resistance.
 - However, seeds from hybrid varieties are not true to type, meaning some seeds might produce plants like the hybrid or they could produce plants more like the original crossed seeds.
- What to expect from hybrid crops
 - Often have bigger fruit
 - Usually have a larger yield
 - Usually, more disease resistant
 - Will not breed true from seed
- These are examples of popular hybrid varieties.
 - Better Boy, Early Girl, and Celebrity tomatoes
 - Bi-color sweet corn varieties include
 - Peaches and Cream, and Serendipity.

Basic planting information

Distribute Warm and Cool Season Crop handout

- How to know when to plant what:
 - Cool-season crops: **planted at 55–75 degrees Fahrenheit**
 - Examples: peas, chard, beets, spinach, onions, leeks, garlic, shallots, chives, cabbage, broccoli, cauliflower, kale, mustard, kohlrabi, turnips, radishes, arugula, carrots, parsnips, celery, parsley, dill, fennel, cilantro, lettuce, artichokes
 - Warm-season crops: **planted after the danger of frost has passed.**

- Examples: tomatoes, peppers, eggplant, tomatillos, potatoes, corn, pumpkins, squash, cucumbers, beans, amaranth
- The average last frost along the Wasatch Front is around May 10th (the Wasatch Back is around June 10th)
- Please refer to this fact sheet for suggested planting dates for other areas of the state. <https://extension.usu.edu/yardandgarden/research/suggested-vegetable-planting-dates-for-utah>
- Days to maturity
 - This time frame is the average number of days before a plant begins producing vegetables. Some plants can produce more than one crop in a single season. Some varieties may not have enough time to mature before the first frost.

Starting from seeds vs. transplants

- Plants that work well as transplants: tomatoes, peppers, eggplant, broccoli, Brussels sprouts, cabbage, cauliflower, kale, kohlrabi, onions, and leafy greens transplant well.
- Plants to direct sow as seeds: melons, cucumbers, squash, and tap-rooted vegetables such as radishes, beets, carrots, turnips, rutabagas, and parsnips.
 - Plant seeds at the depth indicated on the seed packet—typically 3 times its width.
 - For larger seeds like melons and squash, you can plant 2-3 seeds per hole to ensure at least 1 will germinate
 - Root vegetables like radishes, beets, and carrots have very tiny seeds that are difficult to handle. These are sprinkled over the soil and thinned to an appropriate spacing after they have sprouted
- Simple measuring can be achieved by using your finger for planting depth
 - ¼" = the tip of your finger (common for tiny seeds like lettuce or carrots)
 - 1" = about the first knuckle on index finger
 - 2" = about the second knuckle on index finger
- Plant spacing and thinning
 - See the Pocket Gardener for spacing information.
 - <https://pocketgardener.usu.edu>
- How deep to plant transplants.
 - Plant the root ball so the top of it is flush with the soil line.
 - Tomatoes can be planted deeper, buried halfway up the stem.
- How to water plantings
 - Since plants do not have a deep root system, they initially require frequent watering.
 - Once established, they can be watered as little as one to two times per week, depending on soil and temperature.
 - Mulch: Adding mulch such as straw or grass clippings can help retain moisture in the soil.

Basic irrigation information

- How to tell when watering is needed
 - Finger test: the top 2 inches of the soil have dried.
- What happens when a plant is too wet or dry?
 - Too wet can lead to disease issues, root rot, and a wilted appearance.
 - Too dry, wilting, crispy leaves

Row Identifiers

1. Easier Identification—labels make it simple to identify plants, especially when they are young or look similar. This is key for weeding in lesson 2
2. Plant Care—labels help you keep specific needs for each plant, like watering and fertilization schedules
3. Tracking Growth—Labels allow you to monitor each plant's growth and keep records like germination time and harvest time.

Companion Planting

- Companion planting is the practice of growing certain plants together to boost growth, improve yields, and reduce pests. This is not a precise science, and the outcomes may differ.
- Native American tribes traditionally grew corn, beans, and squash together in a system known as the “Three Sisters.” Beans, as nitrogen-fixing legumes, enrich the soil with essential nutrients. Corn offers sturdy stalks for the beans to climb, while squash acts as a natural mulch, its broad leaves shading the soil to retain moisture and suppress weeds.
 1. Pest Suppression
 - Attract beneficial insects (predators and parasitoids) by planting flowers like marigolds, which release natural pesticides.
 - Use Integrated Pest Management (IPM) by identifying pests and planting flowers that attract their natural enemies.
 2. Nurse Cropping
 - Use plants to protect others by providing shade, wind barriers, or dust control.
 - Example: Sunflowers can shield crops from dust and attract pollinators.
 3. Trap Cropping
 - Sacrificial plants lure pests away from desired crops.
 - Example: Petunias attract thrips away from tomatoes and peas. Remove the infested trap crop to reduce pest populations.
 4. Nitrogen Fixing & Cover Cropping
 - Legumes like peas and beans enrich the soil with nitrogen for heavy feeders like corn and cabbage.
 - Cover crops improve soil structure and fertility for the next season.
 5. Farmscaping
 - Create a habitat for beneficial insects by diversifying your garden with nectar-rich flowers.
 - Plan your plant selection to support pollinators and pest predators.

Recipe Sample

Allow time for participants to taste the sample.

Encourage participants to give their feedback on the recipe, including what they would do differently.

Lesson 1 Gardening Terms

- **Cool-season crops:** crops that can grow even if temperatures are below 40 degrees at night and can handle light frost. They thrive between 55 and 75 degrees.
- **Warm-season crops:** crops that will be stunted or killed if temperatures at night dip below 40 degrees.
- **Frost:** When tiny ice crystals form on plants due to low temperatures.
- **Transplants, plugs, or starts:** a fully germinated seedling or immature plant with roots that was grown indoors and can be replanted outdoors. They typically come in small disposable plastic pots or trays and have soil around their roots.
- **Thinning:** removing seedlings when they are small to allow for the appropriate space between fully grown plants.
- **Germinate/Germination:** When a seed sprouts and begins to grow.
- **Heirloom:** open-pollinated vegetable varieties that have been developed and passed down through generations of gardeners
- **Hybrid:** a vegetable created when plant breeders intentionally cross pollinate 2 varieties of vegetable with the intention of passing down the best qualities of the 2 parent varieties. Seeds saved from hybrid varieties will not necessarily breed true to the form of the original hybrid.
- **Compact:** Smaller than the standard size.
- **Bush:** Low growing, multi-stemmed form.
- **Determinate:** Refers to tomato varieties that stop growing vertically (usually around 4' tall) and instead develop laterally. Determinate varieties require less staking and no shoot pruning to produce a crop. Days to maturity: The average number of days before a plant begins producing vegetables.
- **Zones:** Usually refers to USDA hardiness zones, which are a measure of average winter temperatures. Hardiness zones can help determine if a perennial crop will overwinter in a certain area.
- **Frost-free days:** The number of growing days between the last average frost in the spring and the first average frost in fall. This number is used to determine if a plant will have enough time to produce a crop.