

Lesson 2: MyPlate, Fruits and Vegetables, and Weeding

Nutrition topic: Introduction to MyPlate; Fruit and Vegetable Lesson

Gardening topic: Weeding and Fertilizer

Recipe Demonstration: Recommended Spinach Mandarin Salad (or a recipe that focuses on the vegetables being grown in the plot)

Objectives:

Participants will be able to:

- Explain the benefits associated with eating fruits and vegetables.
- Identify the number of cups of fruits and vegetables needed each day according to MyPlate
- Identify weeds in the garden and weed appropriately using mechanical, cultural, or chemical methods.
- Understand the importance of reading herbicide labels.
- Understand the fertility needs of plants and can apply fertilizer appropriately when needed.

Optional FFR: Myplate

Optional Garden Highlight: Plants vs. Weeds; Use Fruit and Vegetable Handouts to focus on a few foods being grown in the garden.

Preparation Required:

Required materials:

- weeding tools of choice (hoe, hand shovel, etc.)

Required handouts:

- [Start Simple with MyPlate](#)

Recommended handouts:

- [Good Foods to Have on Hand](#)

Nutrition topic: Introduction to MyPlate and Fruit and Vegetable Lesson

Introduction to MyPlate

Show participants the MyPlate poster or the Start Simple with MyPlate handout.

Discussion starter: "Who has seen this image before?" "What do you know about it?"

- MyPlate is an image that was developed to provide an easy way to follow the Dietary Guidelines. The food groups that make up the plate work together to provide the nutrients your body needs.
- The plate contains five food groups: fruits, vegetables, grains, protein, and dairy.
- Each of the five food groups has an associated message that explains how to make healthy choices within the group.
- We will be focusing on fruits and vegetables for this series, but let's briefly go over the different food groups.

Fruits

- Focus on whole fruits.
- Choose whole fruits rather than fruit juice. Fresh, canned, frozen, or dried fruit are great options.

Vegetables

- Vary your vegetables.
- Eating a variety of different colored vegetables will help ensure we are getting the many different nutrients we need to be our best.

Grains

- Make half your grains whole grains.
- Whole grains have more nutrients and fiber than refined grains.
- Whole grains include things like brown rice, quinoa, barley, 100% whole wheat bread, etc.

Protein

- Vary your protein routine.
- The protein group includes foods made from meat, poultry, seafood, beans, lentils, eggs, soy products, nuts, and seeds.

Dairy

- Move to low-fat or fat-free milk or yogurt.
- The dairy group includes all fluid milk and foods made from milk that have a high calcium content. These foods include fluid milk, yogurt, and cheese.
- For people who cannot, or choose not, to consume dairy products, there are a variety of non-dairy sources of calcium, including milks made from soy, coconut, almonds, and rice. Some beans, leafy green vegetables, and other soy products also provide calcium.

Making a variety of healthy choices daily from each of these food groups will help reduce your risk of many common health problems and diseases, including, but not limited to, obesity, type II diabetes, certain cancers, and heart disease.

Emphasize that half the plate is made up of fruits and vegetables.

Discussion starter: “Why are fruits and vegetables such an important part of our diet?”

- Important source of many nutrients that are often under-consumed in our diets, including, but not limited to:
 - Vitamins A, C, and folate
 - Potassium
 - Fiber
 - Low in calories, fat, and sodium
- Diets rich in fruits and vegetables are associated with a reduced risk of many chronic diseases, including obesity, type II diabetes, heart disease, and certain types of cancer.

Discussion starter: “How many cups of fruit do you think an average adult should eat daily?”

- 1 ½ to 2 cups of fruit per day.
- What counts as a cup of fruit?
 - 1 cup chopped or sliced fruit (show measuring cup)

- o ½ c. dried fruit
- o 8 oz. 100% fruit juice
- o 1 medium pear, 1 small apple, 1 large banana (8-9")
- o ~ size of a baseball
- Fruits can be fresh, frozen, canned, dried, or 100% fruit juice.
 - o Whole fruits offer more fiber and less sugar than even 100% fruit juice, making them a better option.
 - o Canned fruit packed with 100% fruit juice is also a healthy option.
 - o MyPlate recommends making most of your fruit whole rather than juice.

Discussion starter: “How many vegetables do you think an average adult should eat daily?”

- 2 ½ - 3 cups per day.
- What counts as a cup of vegetables?
 - o 1 cup of cooked or raw vegetables (show measuring cup)
 - o 2 cups raw, leafy greens
 - lettuce, spinach, kale, etc.

Focusing on a variety of colors will ensure that you receive all the health benefits associated with eating vegetables. Different colors of vegetables and fruits offer different vitamins, minerals, and phytochemicals.

Gardening Topic: Basic Weed Management

Mechanical, cultural, and chemical weed control

- Mechanical weed control includes methods such as hand pulling, tilling, hoeing, and digging.
 - Mechanical control is preferred in the vegetable garden when compared to chemical application.
 - Hand pulling requires more work.
 - Schedule a time once a week to weed; this will help you stay on top of weed management when plants are small.
- Cultural controls include methods such as mulching, mowing, solarization, flame weeding, and competition from crops such as cover crops.
 - Spraying should be limited to garden preparation before vegetables are planted.
 - Manage perennial weeds like field bindweed with chemical controls in the fall and early spring.
 - Spraying after planting is risky; plants can be killed by overspray or drift.
 - If using chemical weed control, be sure to **follow all label directions**.
- Pre-emergent can stunt the growth of transplants and prevent vegetable seeds from germinating.

Frequency of weeding

- Weeding should be done as often as possible.

- Controlling weeds often and when they are young will make management much easier for the gardener.
- Pulling weeds before they bloom or go to seed. This will reduce the seed bank and reduce weed pressure over time.

Basic fertilizer application

Plants need nutrients to grow and produce leaves, stems, and fruit.

- Nutrients in soil naturally occur from two sources:
 - Fungi and bacteria in the soil break down and release nutrients from organic matter.
 - Weathering from the sun, wind, and water that makes nutrients available from mineral sources.
- Nutrients can also be applied by people using fertilizer.
 - o Fertilizer can be purchased from garden stores, nurseries, or even large box stores. They come in different forms, including liquid, granular, or powder. They can also be derived from organic sources (fish emulsion, bone meal, or blood meal) or inorganic (synthetic).
 - o The three most needed nutrients for plant growth are N, P, and K. They are what we typically find in a fertilizer bag listed as three numbers in a row separated by a dash (10-5-15).
 - **Nitrogen (N)**
 - promotes rapid leafy growth and gives leaves and stems a healthy, deep green color.
 - should be added every year at the time of planting.
 - **Phosphorous (P)**
 - promotes crop maturity, seed and fruit formation, increased root growth, and increased disease resistance.
 - Most soils in Utah contain adequate amounts of phosphorous, so it is often not needed.
 - If adding, it **MUST** be added at the roots; it doesn't move in the soil.
 - **Potassium (K)**
 - Most soils in Utah contain adequate amounts of potassium, so it is rarely needed as an amendment.



Miracle-Gro Lawn Products, Inc., P.O. Box 207, Indianapolis, IN 46217. Products, Inc., P.O.

Miracle-Gro® Shake 'n Feed® Tomato, Fruit & Vegetable Plant Food 10-5-15
GUARANTEED ANALYSIS **F1144**

Total Nitrogen (N)	10%	Derived from: Polymer-coated Urea, Urea, Ammonium Phosphate, Feather Meal, Kelp Meal, Alfalfa Meal, Earthworm Castings, Bone Meal, Potassium Sulfate, Calcium Carbonate, Dolomitic Limestone, Magnesium Oxide, Magnesium Sulfate, Copper Oxide, Copper Sulfate, Iron Oxide, Ferrous Sulfate, Manganese Oxide, Manganese Sulfate, Zinc Oxide and Zinc Sulfate.
1.0% Ammoniacal Nitrogen		
8.8% Urea Nitrogen*		
0.2% Water Insoluble Nitrogen*		
Available Phosphate (P ₂ O ₅)	5%	*7.4% slow-release nitrogen (N) from polymer-coated urea and water insoluble nitrogen derived from feather meal.
Soluble Potash (K ₂ O)	15%	
Calcium (Ca)	5.6%	Information regarding the contents and levels of metals in this product is available on the Internet at http://www.regulatory-info-sc.com
Magnesium (Mg)	2.9%	
0.69% Water Soluble Magnesium (Mg)		
Sulfur (S)	6.0%	
6.0% Combined Sulfur (S)		
Copper (Cu)	0.05%	
0.001% Water Soluble Copper (Cu)		
Iron (Fe)	0.92%	
0.001% Water Soluble Iron (Fe)		
Manganese (Mn)	0.34%	
0.23% Water Soluble Manganese (Mn)		
Zinc (Zn)	0.11%	
0.001% Water Soluble Zinc (Zn)		

How do I know what is in my soil?

- It is strongly suggested that you get a soil test in your home garden.
- <https://usual.usu.edu> is the site for USU Analytical Laboratories, and they can test your soil to give you a baseline.
- If you don't start with a soil test, you will want to use a nitrogen-only fertilizer (21-0-0) unless you see symptoms of nutrient deficiency.
- If you suspect a deficiency, contact your local Extension office.

Lesson 2 gardening terms:

- **Integrated pest management (IPM)** is the process of using different methods to control weeds and insects to reduce the use of chemicals and their impact on the environment. Usually, a funnel starts with methods that are less harmful to the environment and moves to methods that have a higher risk of harm.
 - **Mechanical management:** using physical methods such as trapping, pulling, or squishing.
 - **Cultural management:** changing the situation or environment the plants are in by adding or removing items such as water, sunlight, exposed soil, etc.
 - **Chemical management:** the use of chemicals (pesticides or herbicides) as a method of reducing pests or weeds.
- **Perennials are** plants that overwinter and come back year after year.
- **Annual:** plants, such as vegetables, that must be planted each year and die during the winter.
- **Pre-emergent:** A chemical herbicide that creates a barrier for germinating seeds and kills them before they grow into mature plants.
- **Field bindweed is** a type of weed that has deep tap roots that break easily and cannot be managed by pulling.
- **Solarization:** Using plastic to cover the soil and allowing the sun to heat it potentially kills off any weeds that germinate.
- **Flame weeding:** burning weeds using a torch or other method of controlled fire.
- **Cover crops** are non-edible crops that can be planted so that the soil doesn't remain bare and invite weeds.
- **Weathering:** When environmental factors like wind, temperature, or flooding cause rocks and soil to erode or break down.
- **Seed bank:** dormant seeds in the soil that can germinate when the conditions are ideal (temperature, water, sunlight, etc.).