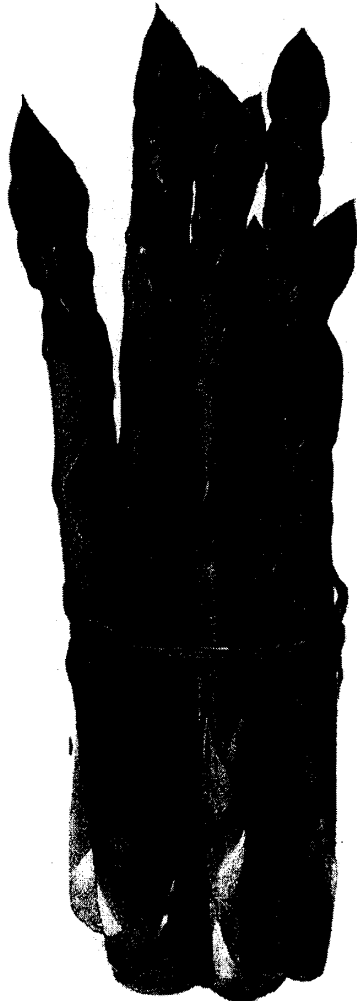


Asparagus

Asparagus is a perennial plant whose roots send up tender, delectable shoots. It grows wild in marshy parts of Europe and Asia and is one of the most recently cultivated members of the lily family. Until modern times, the plant was prized for its purported medicinal qualities; it was seen as a restorative to compensate for a poor winter diet. Most of the asparagus eaten in the United States is grown in Northern California, where

the plant flourishes in the cool, moist climate. In this country, we prefer green asparagus, but purple and white varieties are also available. In Europe, particularly France, the white asparagus is held in high esteem and is considered a delicacy. White asparagus is actually the result of chlorophyll-deprivation. Farmers grow the plants under rows of dark plastic so they receive no exposure from the sun. As a result, the plant's chlorophyll is not activated, so the asparagus spears are an ivory color with a mild flavor.



Seasonality and Growing Conditions

Asparagus is the quintessential spring vegetable, available from March to May. Farmers start their asparagus crop from "crowns," roots that are grown from seed. Before planting, farmers carefully prepare the soil using rich compost and fertilizer so that the asparagus has a nutritious environment to grow in. The plants take up to three years to produce a sizable crop yield, and each asparagus plant only produces a few spears for harvest. However, the perennial nature of the plant means that the same plant can produce for years.

Asparagus requires sunny, rich, deep, well-drained soil. The roots can penetrate up to five or six feet into the ground, and may have the same spread outwards, so they are planted far apart in well-composted trenches. Once established, the plants will thrive with little care for many years.

Keeping asparagus beds weed-free and away from trees (tree roots may interfere with the asparagus's extensive root system) and hand-removal of slugs and snails are key to growing healthy plants.

Asparagus are prone to asparagus beetles. To prevent this pest, the planting area should be kept clear of debris. Some farmers also rely upon free-ranging poultry, such as ducks and chickens, to eat the beetle larvae and adults. Asparagus rust is caused by damp conditions, so it is best to avoid planting asparagus in excessively moist climates.

Farmers harvest the spears when they reach a height of six to 10 inches and carefully snap the spears at or just below the soil so that the roots are not damaged or exposed. Each plant can withstand a harvest for a certain number of weeks, then it must be left to grow and develop its shrubby tops (they are related to the asparagus fern). In doing so, the plant's energy can be redirected to the roots for the long dormant period that follows each growing season.

Choosing, Storing, and Nutrition Information

When selecting asparagus at the market, it is important to remember that, like corn, the spears begin to lose their sweet flavor as soon as they are picked and the plant's natural sugars are converted to starch. You may purchase tender, pencil-thin spears, or the thicker, tougher, and more intensely flavored spears. In either case, look for bright green spears that have tight tips, and avoid spears that are pale, fibrous, and have dried-out butts. You can store asparagus tightly wrapped in plastic in the refrigerator for up to four days, but it is best to cook it right away.

Asparagus is high in vitamins A and C and in iron.

RECIPE

Asparagus with Lemon and Parmesan

Preparation Time: 25 minutes
Cooking Time: 5 minutes
Total Lesson Time: 60 minutes
Recipe Level: Easy

Background

Because most students do not get a chance to eat asparagus on a regular basis this recipe enables students to closely examine asparagus spears. Allow students to cut spears crosswise and lengthwise to explore the internal structure. After students have shared their observations, use different size asparagus to prepare this simple recipe. This will allow students to notice the differences in preparation, cooking time, and taste for different size spears.

This dish can be served cold as a salad or warm as an appetizer. Use a block of Parmesan cheese instead of pre-grated because it will have a more pungent taste.

Objectives

Students will be able to:

Identify the parts of an asparagus spear.
Compare spears with different thicknesses.

Ingredients

For a class of 20:

30 asparagus spears
2 lemons
salt to taste
1/4 cup extra virgin olive oil
7 ounces Parmesan cheese
4 cups water

Materials

For the class:

colander
1 large mixing bowl
measuring spoons
large pot with lid
slotted spoon or tongs
hot plate

For each group of 4:

2 cutting boards
2 knives
2 peelers
4 napkins
4 plates
4 forks
journals

Preparation

1. Have students wash their hands. Discuss proper methods of handling food.
2. After washing the asparagus and drying it in the colander, separate it into five equal portions.
3. Bring salted water to boil on the hot plate while students make asparagus observations.

Safety Precautions

Review safety precautions for using knives and the hot plate.

Making the Recipe

1. Demonstrate how to peel the asparagus and remove any woody sections at the bottom. Students will need to peel the thick spears but not the thin ones. Discuss the reasons for peeling the larger spears. Have groups prepare their asparagus and place it on a plate.
2. Collect plates and place them on the demonstration table next to the hot plate. Have students gather around the demonstration table. Select two students to place the asparagus in the pot to cook briefly (about 2-5 minutes, depending on thickness). The spears should be just tender enough to allow a knife to pierce through the middle. Ask two other students to cut lemons into quarters and another to grate the Parmesan cheese.
3. Remove the spears with a slotted spoon or tongs (tongs are much easier to use) and place them on plates. While the asparagus cools discuss any changes that students observe in the smell, color, or texture. Ask them to make predictions about the taste.
4. When the asparagus is cool, have a student drizzle olive oil and squeeze lemon juice on it. Mix the spears to coat them well. Let another student sprinkle the Parmesan cheese on top. Serve and eat.
5. While the students are eating, discuss the differences between the thick and thin spears.
6. Clean up materials and compost food scraps.