



BLUEBERRY

2023 LEADER'S GUIDE

Written by Cindy Kiser, KAFCE State EPC

LESSON GOALS:

Participants should be able to identify blueberries as member of the fruit food group. Access how one will benefit including blueberries in our diets. Understand where/how blueberries are grown. Appreciate the selection, storage and preparation of blueberries. Plan healthy meals and snacks that incorporate blueberries.

COMMUNITY ACTIVITIES:

Publish news articles. Make a display. Hold informative meetings in the community. Volunteer to talk with people such as classrooms, 4-H groups, church youth groups, or seniors groups. Develop radio or TV spots to inform the public. Reach out through social media, such as Facebook, TikTok or Tweet your message. Post a YouTube video preparing a blueberry dish. Utilize blogs. Make a brochure. Network the message.

CHECK FOR UNDERSTANDING: What are examples of other types of berries? What type of plant do blueberries grow on? What nutrients are found in blueberries? What should you look for when selecting blueberries at the store? What is your favorite way to eat blueberries?

FAST FACTS: Enjoy fresh blueberries as a snack throughout the day. Add blueberries to your smoothie, oatmeal, cereal, or even toast at breakfast. Incorporate blueberries into a salad at lunch or serve with yogurt for dessert. Blueberries are a type of fruit. Highbush blueberries grow on bushes that are typically 6 feet tall. Peak season for blueberries in North America is from April through October. Each blossom on a blueberry bush becomes one blueberry - first hard and green, then reddish purple, and finally blue, sweet, and ready to eat!

OVERVIEW:

- There are over 50 varieties of blueberries!
- Blueberries are also called Star Berries.
- Blueberries grow in clusters on bushes, but they do not ripe at the same time.
- Blueberries have multiple health benefits.

- There are many ways to include blueberries in our diets.
- Blueberries are easy to select, store and prepare.

BLUEBERRY HISTORY:

Native Americans were the first people to enjoy wild blueberries. They were used fresh in the summer and were dried for use in fall and winter. Often wild blueberries were used in breads, cakes, stews, teas and meat dishes. Explorers, Lewis and Clark, during their trip to the Northwest Territories, witnessed Natives smoke-drying wild blueberries to use in soups and stews. One dish they made was venison cured by pounding blueberries into the meat and smoke drying it. As well, the wild blueberries were used in spiritual ceremonies of the Native people. The Maliseet natives valued them because they were believed to bring stamina since they were the food of the bear. Other groups believed that the wild blueberry, with the star shaped crown, was sent by the Creator to feed their children in times of food scarcity.

BLUEBERRY FACTS:

While blueberries have been making life in North America more delicious for 13,000 years, they really took off in the last century. Our favorite berry has a fascinating story, from the industry-leading work of Elizabeth White to domesticate blueberries in the 1910s to the introduction of the blueberry emoji in 2020.

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Blueberries are used in jellies, jams, and pies. They are baked into muffins and are an ingredient in many other snacks and delicacies. A more recent use of blueberries includes blueberry juice which has now entered the market and is considered a whole new category of juice on the beverage aisle. Blueberries have increasingly gained attention; USDA reports indicate that between the years of 1994 and 2003, annual U.S. consumption of fresh blueberries rose approximately 1.6 times. This gain in attention is likely due to the increased recognition of the potential human health benefits of regular blueberry consumption.

Blueberries contain vitamins, minerals, and antioxidants that provide notable health benefits.

ANTI-PROPERTIES:

Anti-oxidant-Blueberries are one of the best natural sources of antioxidants. While antioxidants aren't necessary for your body to function, they help protect your body from damage by free radicals. Your cells produce free radicals as waste products, but these particles can go on to hurt other cells. Eating blueberries regularly for just two weeks can help reduce damage to your cells by as much as 20%.

Anti-cholesterol-High cholesterol is dangerous for your heart because it can build up in your arteries. The cholesterol that builds up eventually gets oxidized, and this damages your body if it happens in large amounts. Antioxidants in blueberries help prevent cholesterol in your blood from being oxidized and may even help keep cholesterol from building up in the first place.

Anti-high blood pressure-Eating blueberries regularly can help reduce high blood pressure in people with metabolic syndrome and protect cardiovascular health. The current

hypothesis is that blueberries help the body produce more nitric oxide, which reduces blood pressure inside blood vessels and helps with smooth muscle relaxation.

Anti-diabetes-Blueberries can help people with diabetes better manage their blood sugar levels. Studies have shown that eating blueberries regularly can help improve insulin sensitivity in people with type 2 diabetes. Blueberries can also help reduce fasting blood sugar levels by nearly a third in people with type 2 diabetes, helping them to manage their blood sugar levels more effectively.

Anti-cancer-Berry fruits, particularly blueberries, have been under recent investigation in regards to their role in cancer prevention. Several different cancers have been investigated, including oral, breast, colon and prostate cancers.

Anti-Alzheimer's-The consumption of blueberries is also believed to possibly play a role in delaying the development of neurodegenerative diseases, such as Alzheimer's disease. There have been several studies in laboratory animals that show promising results. One study the researchers noted a reversal of age -related deficits in both neuronal signaling and behavioral parameters. Although the researchers believed that the improvements seen were due to the polyphenols in the blueberry (BB) extract, it was not evident whether or not these phytonutrients entered the brain. Further study is being done.

Anti-gut bacteria - The consumption of phenolic compounds in berries has also been suggested to play a role in gastrointestinal (GI) health. One study found that these compounds inhibited the growth of several intestinal pathogens, such as Salmonella and Staphylococcus. Another study examined the effect of six different berries (raspberries, strawberries, cranberries, elderberries, blueberries, and bilberries) on inhibiting the growth of Heliobacter pylori. H pylori is a bacterial infection that can become serious if left untreated. The study found that, when compared with the controls, all berries significantly inhibited growth of H. pylori.

Anti-wrinkle - Blueberries and many other berries contain wrinkle-fighting antioxidants known as anthocyanins, flavonoids that researchers believe may help suppress the growth of tumor cells and regulate blood sugar (preventing glycation, a process that makes collagen and elastic fibers in skin become stiff and lose its firm supple nature). Blueberries also contain vitamin C, which helps boost radiance and aids in collagen synthesis.

SELECTION AND STORAGE:

Look for firm berries that have a uniform color. Avoid berries dull, soft, and watery. Make sure there is no mold or juice in the container.

Store ripe berries in a covered container in the refrigerator for up to 3 days. Wash blueberries right before eating.

To freeze, place rinsed blueberries on a paper towel-lined baking sheet in a single layer and freeze for 1 hour. Place in a container with a lid and freeze for up to 9 months.

PREPARATION:

Blueberries are native to temperate parts of North America. They are traditionally in season from April to September in the US, but are sold year-round as imports from South America. These tasty berries can be found in supermarkets, health food stores, and farmers' markets around the country.

Blueberries bring a mild, sweet flavor that's perfect for baked goods and desserts. You can also enjoy raw blueberries by themselves as simple healthy snacks. Blueberries last longer if they're refrigerated or frozen, and they can be added in fresh or frozen form to most recipes with similar results.

Here are some suggestions for how to add blueberries to your daily diet:

- Eat blueberries raw as a snack.
- Bake a blueberry pie.
- Add blueberries to smoothies.
- Make blueberry juice.
- Include blueberries in pancakes.
- Dry blueberries for a raisin-like treat.
- Make a blueberry gazpacho.

BLUEBERRY GROWING:

There are many different types of soil. Certain types of plants such as wild blueberries prefer to grow in acid soils with a pH between 4.5 and 5.0. Other plants such as carrots and alfalfa prefer a higher pH, between 6 and 7.

In choosing land to grow wild blueberries, producers must consider a number of factors. There must be a good natural base of wild blueberry plants since they are not planted, only managed and encouraged to grow. It is important that the land be reasonably flat and free of rocks. For this reason, land that was formerly farmed is very good for wild blueberry production. Pruning the wild blueberry is very important. It encourages strong, healthy growth.

SUMMARY:

All things considered, the mighty but tiny blueberry has some major health benefits. Whether you enjoy them fresh, blended into smoothies or baked into a whole-grain muffin, there are plenty of reasons to get your fill. With their potential benefits to aging, memory and heart health, continue to believe in the power of blueberries.

RESOURCES:

<https://food.unl.edu/documents/Blueberry.pdf>

https://www.pbrc.edu/training-and-education/pdf/pns/PNS_Blueberries.pdf

https://www.canr.msu.edu/resources/michigan_fresh_blueberries

<https://cdn.dal.ca/content/dam/dalhousie/images/sites/wild-blueberry/pdfs/bluekit.pdf>

https://www.azed.gov/sites/default/files/2020/11/FFVP_Blueberry%20Handout.pdf

Reviewed by Clara Wicoff, Southwind FACS Agent, K-State Research and Extension

Jessika Workman, RN, MBA-HA, CNO, Lovelace UNM Rehabilitation Hospital, Albuquerque, NM

