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### ALL ABOUT SPINACH



The etymology of spinach traces back to the Persian term "ispanah" (meaning green hand) which underwent transformations to become "spanach" in Latin and eventually evolved into the English word "spinach." With roots believed to have started in ancient Persia (today's Iran) over 2,000 years ago, this leafy vegetable found its way to the far reaches of China in 647 AD, presented as a ceremonial gift by the King of Nepal. By the 11th century, spinach had woven itself into European agriculture, arriving in Spain through the Moors and sparking a rich history of cultivation on the continent.

The Renaissance in Europe marked a pivotal era where spinach earned acclaim for its health advantages and exceptional adaptability in the kitchen. Its culinary appeal peaked in popularity when Catherine de Medici introduced spinach to the palates of France following her marriage with Henry II. This leafy green, infused with historical significance, crossed the Atlantic alongside European settlers, integrating into North American kitchens during the 18th century.

Scientifically identified as *Spinacia oleracea*, the spinach plant is an annual, edible flowering plant belonging within the Amaranthaceae family. Characterized by its simple leaves, arranged along stems in alternating fashion, and flowers adorned with colorful bracts in lieu of true petals, spinach shares botanical kinship with fellow Amaranthaceae family members such as beets, chard, quinoa, and amaranth. Flourishing in optimal conditions, this leafy plant can reach heights of nearly one foot, while its leaves can grow into an impressive span of up to 6 inches in width and 12 inches in length.

Cultivating spinach, prized for its quick growth, begins by planting seeds directly in well-drained soil during early spring or late summer. Growing spinach in full sun is ideal but it can tolerate partial shade and truly flourishes in temperatures between 50-60°F. Farmers employ smart techniques like crop rotation and proper irrigation to boost yield and minimize pests. Consistent harvesting of outer leaves keeps the growth cycle going, promising a bountiful harvest. With its speedy growth and versatility, spinach is an excellent choice for both home gardens and farms worldwide.

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### HEALTHY INGREDIENT CONTRIBUTION



Spinach is a nutrient-rich leafy green vegetable brimming with a diverse array of health-enhancing elements. These natural elements provide a wholesome way to enhance your well-being by delivering essential vitamins and minerals. Renowned for its potent nutrient content, low-calorie nature, and an array of health perks, spinach rightfully earns its superfood status. Incorporating this leafy green into your meals not only introduces a vibrant burst of color and flavor that delights your taste buds but also enhances your overall nutrition, contributing to a more wholesome and satisfying dining experience.

**Vitamin A:** Vitamin A is crucial for maintaining healthy vision, a strong immune system, reproduction health, and proper skin health. A one-half cup serving of cooked spinach provides approximately 575µg, or 65% of the recommended daily value (DV) of vitamin A.

**Vitamin K:** A one-half cup serving of cooked spinach can provide nearly 450µg of vitamin K. It is suggested that adults and children aged 4 years and older to intake 120µg of vitamin K per day, in addition to its anti-inflammatory effects, vitamin K, a fat-soluble essential vitamin, helps the body with blood clotting, bone and vascular health, regulating cell growth.

**Folate:** Also referred to as folic acid and vitamin B9, folate helps form DNA and RNA and is involved in protein metabolism. Folate also helps the body produce healthy red blood cells and is critical for periods of rapid growth such as during pregnancy. 100g of raw baby spinach provides about 30% of the DV needed for adults over the age of 19 and about 20% of the DV for pregnant women.

**Fiber:** 100g of raw baby spinach can provide approximately 2.5 grams of fiber, or 10% of the DV. Fiber is essential for digestive health, helps regulate blood sugar levels, and helps people with the feeling of being full.

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## TYPES AND VARIETIES

Spinach showcases its diversity through three primary varieties: savoy, semi-savoy, and flat-leaved, each embracing unique cultivars or sub-varieties. These distinctions not only bring nuances to their cultivation but also lend themselves to a rich array of culinary possibilities, offering versatile options for various cooking and dining preferences.

### Most Common Varieties of Spinach:

- **Savoy:**
  - Dark green, curly leaves
  - Often chosen for its distinctive texture and appealing appearance
  - Varieties: Regiment, Bloomsdale
- **Semi-Savoy:**
  - Slightly wrinkled leaves
  - Combines the texture of Savoy spinach with the ease of cleaning associated with flat/smooth leaf
  - Varieties: Tye, Catalina, Teton, Indian Summer
- **Flat or Smooth-Leaf:**
  - Smooth, broad leaves without wrinkles or curls
  - Easy to clean and cook
  - Varieties: Space, Red Cardinal

### Other Types of Spinach:

- **Baby:** Refers to flat/smooth leaf spinach variety that has been harvested when the leaves are young and tender. More delicate and mild in flavor than mature, true spinach.
- **New Zealand:** Not botanically related to true spinach but has similar culinary uses and is more tolerant to heat.
- **Malabar:** Not botanically related to true spinach but has fleshy, heart shaped leaves with a slightly tangy taste and is commonly used in warmer climates.
- **Perpetual:** Technically a member of the chard family with green, tender leaves and a similar flavor to true spinach.



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## SELECTING AND STORING

### Selecting Spinach:

- **Appearance:** Spinach leaves should have vibrant, crisp, and dark green leaves. Avoid any spinach with leaves that are yellowing, wilted, or have dark spots.
- **Size:** Baby spinach is a popular choice for its young, tender leaves that are more delicate and milder in flavor. Baby spinach is ideal for salads and other raw preparations.
- **Stems:** Look for spinach with fresh, crisp stems that are thin in diameter. Spinach leaves with thick stems are said to be more bitter in flavor. Always avoid bunches with slimy or mushy stems.
- **Organic vs. Conventional:** Due to its tendency to carry pesticide residues, spinach that has been organically grown without the use of pesticides and fertilizers is preferable. However, conventional grown spinach can be substituted as long as it is thoroughly washed.

### Storing Spinach:

- **Avoid Washing:** It is recommended not to wash spinach before storing as it can lead to faster deterioration. Spinach should be washed just before use. It is suggested that even "pre-washed" spinach be washed again before use.
- **Use Quickly:** Not only does spinach begin to quickly wilt but it also tends to lose 50% of its nutrients after being picked and stored for over 8 days.
- **Refrigeration:** To maintain freshness, spinach should be refrigerated in a vegetable crisper or in a perforated plastic bag.
- **Moisture:** The wilting of spinach is quickly accelerated when it becomes too wet. To reduce condensation, spinach can be stored in a plastic bag along with a paper towel to absorb excess moisture.
- **Separate Leaves:** If purchasing spinach in a bunch, separate the leaves to allow for better air circulation and to extend its shelf life.
- **Temperature:** Fresh spinach should be stored in the refrigerator at temperatures above freezing. Ideally, spinach should be stored just over 32° F.
- **Freezing:** If you have an abundance of spinach, it is very conducive to freezing. Spinach should be blanched in boiling water and then shocked in an ice bath before freezing in airtight bags or containers. Spinach that has previously been frozen works best when used in dishes that will be cooked.



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## CULINARY USES

Infusing culinary recipes with spinach introduces a nutritious and dynamic element that effortlessly elevates a diverse range of dishes. Whether sourced fresh, frozen, or canned, spinach has remarkable versatility that integrates into both savory and sweet recipes, providing a tasty way to enrich the color, flavor, and nutritional value of your meals.

- **Salads:** Fresh spinach leaves make a nutritious and tasty base for salads. Spinach can be combined with other greens, vegetables, fruits, and/or nuts. Due to the tenderness of baby spinach leaves, spinach salads work best with lighter dressings such as a vinaigrette.
- **Smoothies/Bowls:** Fresh or frozen spinach can be added to give your smoothies an extra pop of nutrients. Spinach pairs well with fruits like bananas, assorted berries, and mangoes. Spinach adds a nice bright color without overpowering other flavors. For a heartier breakfast or snack, turn the smoothie into a bowl by adding additional fruit, granola, nuts and seeds.
- **Sautéed/Stir-Fried:** Fresh spinach can be sautéed or stir-fried along with olive oil, garlic and salt for a quick, healthy side dish or paired with other vegetables, tofu, or meat for a heartier main dish.
- **Pasta/Risotto:** Fresh spinach can be added to numerous pasta and risotto dishes. The spinach quickly wilts and incorporates into the dish adding a fresh, nutritional component.
- **Soups/Stews:** Fresh or frozen spinach is a welcome addition of nutrition and color when added to broth or cream-based soups and stews.
- **Breakfast:** Spinach makes a perfect partner for ingredients like cheese, mushrooms, tomatoes and herbs when incorporated into quiches, frittatas, omelets, and egg scrambles for savory and satisfying breakfast.
- **Dips/Spreads:** Cooked spinach can be added to a wide variety of dips and spreads for parties or gatherings. These dips and spreads can be served with crackers, bread, or crustless.
- **Spanakopita:** One of the most popular uses of spinach can be found in spanakopita, a Greek dish of savory pastry filled with spinach, feta cheese, and herbs.
- **Pesto:** Adding a small amount of spinach to a traditional basil pesto helps make the green color pop or you can combine 100% spinach along with garlic, pine nuts, parmesan cheese, and olive oil to create a spinach pesto that can be used as a pasta sauce, spread, or dip.



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## FUN FACTS



- Spinach was popularized thanks to Popeye the Sailor Man who became stronger after eating a can of spinach. Thanks to Popeye, the US saw a 33% increase in spinach consumption in the 1930s.
- The first frozen spinach advertisement was displayed in Time Magazine in 1949 and was created by the Birds Eye company.
- Raw spinach is comprised of 91% water, just 5% less than cucumbers.
- China grows approximately 26 million tons of spinach each year, about 92% of the world's production. California is the top producer in the US, accounting for almost 75% of the spinach grown on US soil.
- Two US states both claim to be the spinach capital of the world: Crystal City, Texas & Alma, Arkansas.
- You can celebrate the muscle-inducing vegetable on National Spinach Day, March 26<sup>th</sup>.
- In medieval times, green pigment from spinach was extracted to use as ink and paint.
- Contrary to most other vegetables, cooking spinach can intensify some of the healthful properties found in spinach by as much as 3 times.
- The average American eats 1.5 pounds of spinach per year.
- The term Florentine, commonly seen in recipes where spinach is a significant ingredient, was coined based on Catherine de Medici who lived in Florence, Italy and was a lover of spinach.

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## RECIPE

### Spinach & Feta Quiche with Sweet Potato Crust

Yield: 1 Quiche (6-8 Servings)



**Ingredients:**

- Cooking Pan Spray
- 2 Med Sweet Potatoes, Peeled & Sliced into 1/8" Thick Rounds
- 1 T. Canola Oil
- 1/2 Onion, Sliced
- 2 Garlic Cloves, Minced
- 5 Oz. Fresh Baby Spinach
- 1/2 C. Low-Fat Milk
- 1/2 T. Kosher Salt
- 1/4 T. Black Pepper, Ground
- 1/2 T. Crushed Red Pepper Flakes
- 4 Large Eggs
- 2 Large Egg Whites
- 1/3 C. Feta Cheese, Crumbled

**Directions:**

1. Preheat oven to 350° F. Coat a 9-inch pie pan with pan spray. Layer sweet potato rounds in slightly overlapping circles on the bottom and up the sides of the pie pan. Rounds can be cut in half (placed rounded side up) to fit around the pan sides.
2. Bake in preheated oven for 20 minutes or until potatoes are slightly tender. Place pan on a wire rack to cool and increase oven temperature to 375° F.
3. Place a large nonstick skillet over medium heat. Add the oil, onions, and garlic and sauté for three minutes. Add the baby spinach and sauté for an additional three minutes. Remove from heat to cool.
4. Combine milk, salt, black pepper, red pepper flakes, eggs, and egg whites in a medium bowl. Whisk to combine.
5. Arrange spinach mixture evenly in crust and pour egg mixture over spinach. Evenly sprinkle feta cheese over quiche.
6. Bake at 375° F for 35 minutes or until egg mixture is set. Let stand for five minutes. Cut into wedges and serve warm.

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## QUIZ



After you read through this month's Ingredient of the Month, take this quiz to test your knowledge. In order to earn continuing education hours (CEHs) from the American Culinary Federation (ACF), the test must be completed through the ACF's Online Learning Center. Seventy-five percent accuracy is required to earn one hour of continuing education credits toward professional certification.

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**QUIZ**

Question #1



Who can be credited for introducing spinach to France, which played a pivotal role in increasing its popularity during the renaissance?

- A. The Moors
- B. Catherine de Medici
- C. The King of Nepal
- D. Henry II

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**QUIZ**

Question #2



Which of the following are botanical relatives of spinach within the Amaranthaceae family?

- A. Apples and pears
- B. Tomatoes and potatoes
- C. Carrots and cucumbers
- D. Beets and chard

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**QUIZ**

Question #3



How much fiber is provided when consuming 100g of raw baby spinach?

- A. 1.5g
- B. 2.5g
- C. 3.5g
- D. 4.5g

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**QUIZ**

Question #4



Which of the following is a significant health benefit associated with the vitamin A content found in spinach?

- A. Improved digestion
- B. Maintaining healthy vision
- C. Boosted muscle growth
- D. All of the above

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**QUIZ**

Question #5



Baby spinach, despite being more delicate, has a bolder and stronger flavor compared to mature, true spinach.

- A. True
- B. False

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**QUIZ**

Question #6



Which variety of spinach is often chosen for its distinctive texture and appealing appearance?

- A. Malabar
- B. Semi-Savoy
- C. Perpetual
- D. Savoy

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**QUIZ**

Question #7



It is estimated that spinach can lose up to \_\_\_\_\_ of its nutrients after being picked and stored for over 8 days.

- A. 10%
- B. 25%
- C. 50%
- D. 75%

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**QUIZ**

Question #8



Storing spinach with a paper towel in the plastic bag helps absorb excess moisture and reduce condensation.

- A. True
- B. False

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**QUIZ**

Question #9



Which type of dressing is recommended for spinach salads due to the tenderness of the baby spinach leaves?

- A. Creamy dressing
- B. Honey mustard dressing
- C. Vinaigrette
- D. Ranch dressing

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**QUIZ**

Question #10



What was the cause of the significant increase in spinach consumption the US saw in the 1930s?

- A. A new cooking technique
- B. A popular cartoon character
- C. An advertising campaign
- D. A scientific discovery

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**JOIN US NEXT MONTH!**



Stay tuned for the next ACF Ingredient of the Month! Be sure to visit the Online Learning Center (OLC) to download a copy of each month's ingredient presentation. Don't forget to take the official IOTM quiz through the OLC to earn one hour of continuing education credits toward professional certification.

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