

# There's a Superfood Growing in Your Garden

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✓ Fact Checked

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## STORY AT-A-GLANCE

- › Zucchini is a dark green, firm fruit that many think of as a summer vegetable. It was one of "The Three Sisters," which were three crops indigenous people planted close to each other to nourish and protect each other
- › Zucchini is nutrient and fiber-rich, which may help with your weight loss efforts and blood sugar control. Although fiber is a type of carbohydrate, your body does not digest it. Instead, your body uses it to help regulate transit time through the bowel and lower blood glucose
- › Fiber helps support the nutritional needs of beneficial gut bacteria. Researchers have found a bidirectional association between gut and heart health; zucchini may also help reduce your risk of colon cancer
- › Zucchini can grow in your garden or containers in light-weight, well-draining soil. Harvest when the fruit is 6 to 8 inches long. Consider adding it to your salad, making zoodles, or whipping up delicious zucchini fritters with avocado dill dip

The peak harvesting season for this delicious member of the gourd family in the northern hemisphere is from May to August. When harvested correctly, zucchini (*Cucurbita pepo*) is dark green and has firm fruit. Although most people think of it as a summer vegetable, it is indeed a fruit.

The plant is native to Central America and Mexico. According to the U.S. Department of Agriculture,<sup>1</sup> zucchini may have been one of "The Three Sisters," which were crops

planted together within a shared space. This indigenous agricultural practice used three plants – corn, beans, and squash – to nourish and protect each other as they grew.

Zucchini plants can grow in nearly every climate during the warm summer months. It takes only one or two plants to produce enough for one family. In addition to being a good producer throughout the growing season, zucchini is also high in nutrition and has several health benefits. Zucchini is best harvested when they're 1.5 inches round and no longer than 8 inches.

Zucchini can taste bitter when they become overripe or stressed. This is because, like other vegetables in the family, zucchini contains toxins the plant uses to defend against predators.<sup>2</sup> The zucchini produces cucurbitacins, which has a bitter taste. Usually, cultivated zucchinis have a low level of the toxin, but the level rises when they are overripe or stressed by such things as wide temperature swings, uneven watering, low soil fertility or low soil pH.

If you are saving your own seeds, be sure not to save seeds from plants that produced extremely bitter fruit that was not caused by environmental stress, as eating vegetables that are extremely bitter can lead to diarrhea and stomach cramps.

## Zucchini Nutrition

In an interview with Everyday Health,<sup>3</sup> Kristin Gillespie, a registered dietitian from Virginia Beach explained that zucchini is rich with antioxidants and micronutrients, saying, “These benefits include reduced blood sugar levels, improved heart health, improved vision, enhanced weight loss, improved bone health, reduced inflammation and improved digestion.”

According to the USDA, 1 cup of chopped zucchini is low in calories, high in fiber and is an excellent source of these nutrients:<sup>4</sup>

|        |           |
|--------|-----------|
| Energy | 21.1 kcal |
|--------|-----------|

|                              |                             |
|------------------------------|-----------------------------|
| <b>Protein</b>               | <b>1.5 grams (g)</b>        |
| <b>Total fat</b>             | <b>0.397 g</b>              |
| <b>Total fiber</b>           | <b>1.24 g</b>               |
| <b>Sugar</b>                 | <b>3.1 grams</b>            |
| <b>Calcium</b>               | <b>19.8 milligrams (mg)</b> |
| <b>Iron</b>                  | <b>0.459 mg</b>             |
| <b>Magnesium</b>             | <b>22.3 mg</b>              |
| <b>Phosphorus</b>            | <b>47.2 mg</b>              |
| <b>Potassium</b>             | <b>324 mg</b>               |
| <b>Zinc</b>                  | <b>0.397 mg</b>             |
| <b>Vitamin C</b>             | <b>22.2 mg</b>              |
| <b>Folate</b>                | <b>29.8 micrograms (µg)</b> |
| <b>Choline</b>               | <b>11.8 mg</b>              |
| <b>Vitamin A</b>             | <b>12.4 µg</b>              |
| <b>Carotene</b>              | <b>149 µg</b>               |
| <b>Lutein and Zeaxanthin</b> | <b>2630 µg</b>              |
| <b>Vitamin K</b>             | <b>5.33 µg</b>              |

# Zucchini May Help Weight Management and Blood Sugar Control

Because zucchini is high in water and fiber, it may fit well into your weight loss plan. The water and fiber content help you feel full longer. However, it's important to note that to make a difference in your weight loss efforts, zucchini must replace empty calories from junk food or high carbohydrate foods as opposed to just adding zucchini to your current diet.

Zucchini noodles, also known as zoodles, are a unique and interesting way of replacing pasta in your diet if you're seeking to eat gluten-free or low carb.<sup>5</sup> Zoodles can be made with a julienne peeler for thick flat slices of zucchini or with a spiralizer for curly zoodles. The zoodles can be sauteed, boiled, baked or eaten raw.

By replacing pasta with zoodles, you can eat the same volume of food, get full and feel full longer. This is important since eating foods rich in carbohydrates, like pasta, can spike your blood sugar level and then cause it to drop within a couple of hours, leaving you feeling hungry all over again.<sup>6</sup>

Although fiber is a type of carbohydrate, it's the type that your body cannot digest. Instead of being broken down into sugar molecules, it passes through your gut undigested. Another benefit to fiber is helping to regulate how your body uses sugar.

While **I recommend that most adults get 50 g of fiber** for every 1,000 calories of food, the USDA's recommendation for adults up to age 50 is only 25 g for women and 38 for men. Women older than 50 should have 21 g and men, 38. Unfortunately, according to Harvard TH Chan School of Public Health,<sup>7</sup> most Americans eat only about 15 g per day.

There are two types of fiber found in fruits and vegetables, and both are beneficial. Soluble fiber<sup>8</sup> dissolves in water and can help slow down digestion. This also helps you to stay full longer. Soluble fiber can be found in nuts, seeds, avocados, Brussel sprouts and apples. As soluble fiber dissolves with water, it turns into a gel.

Insoluble fiber adds bulk to the stool and encourages the food to pass more quickly through the digestive tract. While soluble fiber has demonstrated the ability to help

lower your glucose levels, insoluble fiber can help prevent constipation. Both types of fiber are beneficial and necessary in your diet. Zucchini has nearly equal amounts of soluble and insoluble fiber.<sup>9</sup>

## **Take Care of Your Heart and Gut Health**

Researchers have found a bidirectional association between your gut microbiome and your cardiovascular health. Scientific interest in gut health has revealed evidence that it plays an important role in cardiovascular diseases. Gut dysbiosis is linked to obesity, Type 2 diabetes, hypertension, atherosclerosis and heart failure.<sup>10</sup>

In 2018, San Francisco State University released a study<sup>11</sup> during which they recruited 20 men and 17 women to test their cardiovascular fitness and their gut microbiome. An analysis of the bacterial composition revealed participants with the best fitness had a higher ratio of firmicutes to bacteroides.

Firmicutes bacteria are associated with a reduction in leaky gut. According to one of the researchers, this shows that exercise has a crucial impact on your gut microbiome and may lead to the creation of individualized “exercise prescriptions” to improve gut health.<sup>12</sup> An animal study<sup>13</sup> at Johns Hopkins University School of Medicine demonstrated that when food is eaten, gut bacteria produces chemicals that are absorbed and may activate receptors that lower blood pressure.

In other words, the relationship between your gut health and your cardiovascular health is complex and bidirectional. Zucchini can help contribute to a gut-friendly microbiome since high-fiber foods help improve gut health. By supporting regular bowel movements, it can help reduce the symptoms of irritable bowel syndrome and relieve constipation.<sup>14</sup>

One animal study<sup>15</sup> specifically evaluated the effect zucchini has on the prevention of cardiovascular disease. The rats receiving the intervention were fed a high-fat diet plus 10% zucchini, 15% zucchini and 20% zucchini. The data showed those getting 15% and 20% of their diet from zucchini had morphological changes in the heart, spleen and kidney that demonstrated a preventive effect against cardiovascular disease.

The data also demonstrated that the animals lost weight after 8 weeks of intervention on a high-fat diet with zucchini. It also was found to increase HDL-C levels and lower triglycerides and LDL-C. They hypothesize that the cholesterol-lowering ability was likely related to the fiber found in zucchini.

While 15% to 20% may sound like a high percentage of zucchini in the diet, the beneficial effects may have been related to the fiber and nutrition found not only in zucchini, but other vegetables.

## **Zucchini May Reduce Your Risk of Cancer**

A research study published in 1991 concluded that “major public health benefits could be achieved by substantially increasing consumption of these [fruits and vegetables] foods.”<sup>16</sup> Many other studies<sup>17,18,19</sup> have demonstrated the powerful effect that fruits and vegetables have on cancer prevention.

A lab and animal study<sup>20</sup> published in 2020 in Scientific Reports analyzed the effects of cucurbitacin B and I against colon cancer cell growth. The study demonstrated that both inhibited tumor growth in the lab and an animal study, which suggested that these compounds found in zucchini could inhibit colon cancer.

More research is necessary to determine if zucchini holds a key to preventing other types of cancer or reducing the overall risk of cancer outside the role it plays in the family of fruits and vegetables.

## **Grow Zucchini in Your Garden or Pots**

When you care for it correctly, zucchini can grow in your garden or containers. In either case, you will want to use organic fertilizer as you begin harvesting the fruit to ensure a good harvest. You don't have to purchase organic fertilizer at the store or rely on fertilizer from agrichemical businesses. Instead, as is demonstrated in this short video, you can make your own organic fertilizer at home.

If you're growing zucchini in a pot, make sure it has a diameter of at least 24 inches and a depth of 12 inches. The pot should have at least one good drainage hole at the bottom. You can even use a large plastic storage container when you drill drainage holes. Avoid using regular garden soil that can contain pests or weed seeds. Fill the container with light-weight, well-draining soil and plant the zucchini after the last frost in your area.<sup>21</sup>

You can also start the plants indoors four to six weeks before the last frost. Plant two or three seeds about 1 inch into the soil with a couple of inches of space between each seed. As the seedlings become established, add mulch to maintain a stable ground temperature and retain water. Zucchini do well when they are planted on a raised mound. Two or three plants close together to allow the flowers to easily pollinate can provide you with a good crop.<sup>22</sup>

If you're using containers, you can move the containers close to each other for pollination. Each flower opens for approximately one day. If it's not pollinated on that day, you don't get zucchini. When plants are close to each other, you'll have flowers opening consistently, which improves your chances of pollination.

Female flowers have a tiny fruit behind the base of the flower. You can manually pollinate by removing the male flowers and dusting pollen into the female flowers. Zucchini enjoy at least 2 inches of water a week. If there isn't enough rainfall, you will need to supplement. If possible, water the plants below the leaves, which reduces the chance of powdery mildew.<sup>23</sup>

The plants grow quickly, so you may be harvesting 40 days after planting. The fruit also grows quickly, so check your plant every day for new zucchini. Harvest with a sharp knife or pruning shears. If you miss a zucchini, remove any over-ripe or large squash as soon as possible. This reduces the nutrient demand on the plant. Zucchini can be stored in the refrigerator unwashed, dry and whole.

## **Multiple Ways to Include Zucchini in Your Menu Plan**

There are multiple ways to enjoy zucchini in your menu plan. I like to dry zucchini chips in my dehydrator with seasonings. You can cut them to a thickness of your liking to enjoy as low-carb, crispy treats or with a meal.

Slice up your fresh zucchini in a salad, create zoodles topped with parmesan cheese with a meal or try these delicious crunchy fritters with avocado dill dip courtesy of Healthy Holistic Living.<sup>24</sup> They are an organic and healthy approach to fritters.

## **Zucchini Fritters**

### **Ingredients**

- 1 large or 2 small zucchinis
- 1 clove of garlic, peeled and minced
- 1/4 cup fresh basil
- 1/4 cup fresh oregano
- 1/2 tsp. onion powder
- 1 Tbsp. organic lemon zest
- 2 organic, free-range eggs
- 1/4 cup coconut flour
- 1 tsp. salt
- 1/4 tsp. of pepper
- 2 Tbsp. organic coconut oil

### **Process**

1. Using the large holes of a box grater, grate zucchini. Place zucchini in a colander set in the sink and toss with 1/2 teaspoons salt. Let stand for 10

minutes, and then wring zucchini dry in a clean kitchen towel to remove moisture.

2. Place zucchini in a large bowl and gently mix in egg, garlic, basil, oregano, lemon zest, onion powder, salt and pepper. Mix well to combine.
3. Slowly add flour, stirring so no lumps form.
4. Heat 2 tablespoons coconut oil in a large sauté pan over medium-high heat until the oil sizzles when you drop a small amount of zucchini mixture into the pan.
5. Carefully drop about 2 tablespoons of zucchini mixture into the pan; repeat, spacing fritters a few inches apart.
6. Cook fritters until golden, 2 to 3 minutes. Lower heat to medium. Turn fritters, and continue cooking until golden, 2 to 3 minutes more.
7. Transfer fritters to a plate; set aside in a warm place. Cook the remaining zucchini mixture, adding more oil to the pan if necessary.

## **Avocado Dill Dip**

### **Ingredients**

- 1 ripe avocado
- 1/2 tsp. of onion powder
- 1/2 tsp. Vegemise
- 1/2 cup finely chopped dill
- Salt to taste

### **Process**

1. Cut avocado in half and remove the seed. Scoop meat with a spoon and place in a bowl.
2. Add all other ingredients. Mash until smooth.

## Sources and References

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