

Vanilla orchids

Vanilla Plumier ex Mill

Vanilla plantifolia



Smelling vanilla can have calming effects on adults too. It can **reduce startle reflexes and also provide some relief from sleep apnea**, a sleep disorder in which breathing repeatedly stops and starts. Because vanilla has fewer calories and carbohydrates than sugar, it can be used to reduce your sugar intake.

Vanilla is among the most popular flavoring agents in the world. It's favored for its pleasing taste and calming aroma.

Vanilla is extracted from the mature pods of certain orchids, commonly the *Vanilla planifolia*. Currently, Madagascar produces around 75% of the world's vanilla. It's also produced in China, Indonesia, Papua New Guinea, and Mexico .

Vanilla extract and vanilla beans are used in food, perfumes, and pharmaceutical products. It's among the top three most expensive spices in the world, alongside saffron and cardamom .

In addition to its versatility and importance in the culinary world, vanilla extract and beans may benefit your health. However, research is limited, and most studies focus on its specific compounds.

1. Rich in vanillin

Vanillin is a phenolic plant compound found in vanilla extract and beans. It's the most researched component of vanilla. Synthetic vanillin is also produced in labs in China, France, and the United States.

Vanillin can also be derived from other foods like rice bran oil and clove oil .

Research shows that vanillin has several benefits properties, including:

Antioxidant. Vanillin is known to have powerful antioxidant properties, though these effects have only been studied in test tubes and animals.

Anticancer. Some evidence suggests that vanillin may have anticancer properties, though research is limited to cell and animal studies .

Anti-inflammatory. Vanillin has been shown to exhibit anti-inflammatory effects in animal and test-tube studies.

Neuroprotective. According to some rodent studies, vanillin may benefit brain health and protect against neurodegenerative diseases .

While these findings are promising, it's unclear how vanillin affects human health.



Plus, studies investigating these potential health benefits have used concentrated doses of vanillin that exceed the amount you'd consumed when using normal amounts of vanilla extract or bean.

For reference, the vanillin concentration in cured vanilla beans is 1–2%, while vanilla extract's concentration is 0.1–0.2%. So, although vanillin likely offers some health benefits, it's unclear whether it would deliver any significant benefits when consumed in typical amounts .

It should be noted that the demand for natural vanilla has skyrocketed amid decreasing vanilla orchid production. This has made the price of vanilla grow astronomically.

In fact, natural vanilla can cost as much as \$4,000 per kilogram (2.2 pounds). In comparison, synthetic vanillin costs just \$15 per kilogram .



Vanilla production from orchids is labor-intensive and typically involves hand pollination on small orchid farms. Thus, the shortage of natural vanilla and the growing demand for this product has sparked the need for alternatives to vanilla from orchids.

While natural vanilla extract is composed of hundreds of compounds, including vanillin, synthetic vanilla only contains vanillin. For this reason, synthetic vanilla likely has different health effects than natural vanilla products like natural vanilla extract and vanilla bean .

2. May offer antioxidant effects

Some of the compounds found in vanilla extract and beans have antioxidant effects, meaning they help protect against cell damage.

For example, two of vanilla's phenolic plant components, vanillin and vanillic acid, have been researched for their antioxidant potential.

A 2020 test-tube study found that both vanillin and vanillic acid protected brain cells against oxidative stress. Of the two, vanillin was found to be more powerful.

Furthermore, a 2021 study in aging rats observed that vanillin protected against liver damage and age-associated oxidative damage .

Another 2011 study in rats showed that pretreatment with vanillin protected against induced liver injury .

While it's clear that vanilla extract and vanilla beans contain substances that may offer antioxidant protection, it's still unknown whether consuming normal amounts of vanilla would offer any antioxidant benefits to humans.



3. May have anti-inflammatory properties

Although inflammation is an essential part of a normal immune response, chronic inflammation has been linked to several health concerns, including increased chronic disease risk.

Eating a diet high in foods and drinks that are rich in anti-inflammatory compounds may reduce inflammatory markers in your body and improve overall health.

Promisingly, vanilla products contain substances shown to have powerful anti-inflammatory effects, including vanillin.

A 2018 study that fed mice a high fat diet to promote obesity demonstrated how oral vanillin supplements reduced inflammatory markers like interleukin-6 (IL-6) and tumor necrosis factor-alpha (TNF- α) in both blood and liver tissue .

Another 2017 study in mice found that oral treatment with varying doses of vanillin reduced skin inflammation caused by psoriasis .

Other rodent and test-tube studies have likewise found that vanillin protects against inflammation-related cell damage .

Still, there's no evidence that consuming vanilla extract or beans reduces inflammatory markers or protects cells against inflammation-related damage in humans.

Finally, keep in mind that these studies used concentrated substances from vanilla products — not pure vanilla products.



4. May benefit brain health

Some research suggests that certain compounds found in vanilla, including vanillin and vanillic acid, may support brain health. They may also have neuroprotective properties, meaning that they may protect your nervous system.

For example, a 2021 study investigated the neuroprotective effects of vanillic acid among mice injected with a neurotoxin — a substance that can harm your nervous system.

It found that vanillic acid injections protected against nerve cell inflammation, reduced markers related to Alzheimer's disease, and lessened memory impairment caused by the neurotoxin .

Other test-tube and animal studies have similarly demonstrated vanillin as a promising neuroprotective agent .

Yet, there's no evidence that a diet high in vanilla extract or vanilla bean promotes brain health or protects against cognitive decline in humans.

5. May help reduce added sugar intake

Using vanilla extract or vanilla bean powder in foods and beverages could help reduce your added sugar intake.

A 2020 study including 129 young adults found that adding vanilla aroma to sugary drinks enhanced their perceived sweetness.

A 2021 study also demonstrated that flavoring a reduced-sugar yogurt with vanilla did not affect its perceived sweetness .

Additionally, a 2020 study among 112 children showed that adding vanilla to milk-based desserts increased the overall liking of reduced-sugar options in over 80% of the participants .

This suggests that adding vanilla to sweets may reduce the need for added sugar.

6. Highly versatile

Because vanilla is called for in many recipes, including quick bread, cakes, cookies, granola, and more, most people have a bottle of vanilla extract in their kitchen.

Plus, pure vanilla beans and vanilla bean powder — ground, whole vanilla beans — can be a unique and flavorful addition to many dishes.

Here are a few ways to use vanilla products in your kitchen:

Add a dash of vanilla bean powder to smoothies.

Sprinkle vanilla bean powder or a few drops of vanilla extract into coffee drinks.

Use vanilla extract in baked goods like cakes and cookies.

Add vanilla bean to this recipe for homemade banana “nice cream.”

Use vanilla bean powder in pancake and waffle mixes.

In addition to vanilla extract, whole vanilla beans, and vanilla bean powder, you can also purchase vanilla paste. The paste is made from vanilla beans, vanilla extract, and natural thickeners.

According to the Food and Drug Administration (FDA), pure vanilla extract must contain 13.35 ounces (378 grams) of vanilla beans per 1 gallon (3.78 L) of liquid (31).

If you’d like to use natural vanilla extract, look for products that contain only vanilla bean extract and alcohol. Note that pure extract is much more expensive than products that contain synthetic vanillin and additives like sugar and artificial flavors and colors.

You can purchase pure vanilla extract, bean powder, and whole beans at most grocery stores and online.

Whenever possible, purchase vanilla products from companies like Vanilla Bean Project, Lafaza, or other brands that partner directly with vanilla farmers to support fair trade and sustainability.



The bottom line

Vanilla extract and products made from vanilla beans are popular flavoring agents.

Animal and test-tube studies suggest that specific compounds in vanilla extract and beans may have antioxidant, anti-inflammatory, and neuroprotective properties.

However, to date, no studies have confirmed whether these benefits apply to humans eating pure vanilla in normal amounts. Thus, it's unclear whether vanilla products could significantly affect your health.

Regardless, using vanilla could help you cut back on added sugar. Vanilla extract, powder, and beans remain versatile ingredients to keep on hand in the kitchen.

