

Annatto

Achiote tree

Bixa orellana



Annatto seeds are high in tocotrienol, a form of vitamin E. They are also a rich source of antioxidants, which are beneficial for protecting skin cells, as well as minerals like calcium, sodium, and iron. Annatto is used to **improve digestion, help manage diabetes, strengthen healthy bones, and reduce signs of aging.**

Annatto is a type of food coloring made from the seeds of the achiote tree (Bixa orellana).

Though it may not be well known, an estimated 70% of natural food colors are derived from it.

In addition to its culinary uses, annatto has long been used in many parts of South and Central America for art, as a cosmetic, and to treat various medical conditions .

.What is annatto?

Annatto is an orange-red food coloring or condiment made from the seeds of the achiote tree (*Bixa orellana*), which grows in tropical regions in South and Central America .It has several other names, including achiote, achiotillo, bija, urucum, and atsucte.It's most commonly used as a natural food coloring, as it imparts a bright color that ranges from yellow to deep orange-red, similar to saffron and turmeric.Its color comes from compounds called carotenoids, which are pigments that are found in the seed's outer layer and many other fruits and vegetables, such as carrots and tomatoes.



Additionally, annatto is used as a condiment to enhance the flavor of dishes due to its slightly sweet and peppery taste. Its aroma is best described as nutty, peppery, and floral.

It comes in several forms, including powder, paste, liquid, and as an essential oil.

Potential health benefits of annatto

This natural food coloring has been associated with various potential health benefits.



Antioxidant properties

Annatto contains numerous plant-based compounds with antioxidant properties, including carotenoids, terpenoids, flavonoids, and tocotrienols .

Antioxidants are compounds that can neutralize potentially harmful molecules known as free radicals, which can damage your cells if their levels rise too high.

Research has found that damage caused by high free radical levels is linked to chronic conditions, such as cancers, brain disorders, heart disease, and diabetes.

Antimicrobial properties

Research suggests that this food coloring may have antimicrobial properties.

In test-tube studies, annatto extracts were shown to inhibit the growth of various bacteria, including *Staphylococcus aureus* and *Escherichia coli*.

In another test-tube study, annatto killed various fungi, including *Aspergillus niger*, *Neurospora sitophila*, and *Rhizopus stolonifer*. Moreover, adding the dye to bread inhibited the growth of fungi, extending the bread's shelf life .

Similarly, one study found that pork patties that were treated with annatto powder had less microbe growth than untreated patties after 14 days in storage .

This research indicates that this food coloring may have a promising role in food preservation.



May have anticancer properties

Early research suggests annatto has cancer-fighting potential.

For example, test-tube studies have found that extracts of this food coloring may suppress cancer cell growth and induce cell death in human prostate, pancreas, liver, and skin cancer cells, among other types of cancer .

The potential anticancer properties of annatto have been linked to compounds it contains, including the carotenoids bixin and norbixin, and tocotrienols, a type of vitamin E .

While these findings are promising, human studies are needed to investigate these effects.

May promote eye health

Annatto is high in carotenoids, which may benefit eye health .

In particular, it's high in the carotenoids bixin and norbixin, which are found in the outer layer of the seed and help give it its vibrant yellow-to-orange color.

In an animal study, supplementing with norbixin for 3 months reduced the accumulation of the compound N-retinylidene-N-retinylethanolamine (A2E), which has been linked to age-related macular degeneration (AMD) .

AMD is the leading cause of irreversible blindness among older adults .

However, human studies are needed before annatto can be recommended for this purpose.

Other potential benefits

Annatto may offer other benefits, including:

- **May aid heart health.** Annatto is a good source of vitamin E compounds called tocotrienols, which may protect against age-related heart issues .
- **May reduce inflammation.** Several test-tube studies indicate that annatto compounds may reduce numerous markers of inflammation .

Get wellness tips to help you meet your next milestone

Ready to level up healthy living? Go that extra mile and supplement the steps you're already taking with the latest news and popular tools in our twice-weekly Wellness Wire newsletter.

Annatto uses

Annatto has been used for centuries for various purposes.

Traditionally, it was used for body painting, as sunscreen, as an insect repellent, and for treating disorders, such as heartburn, diarrhea, ulcers, and skin issues.

Today, it's mainly used as a natural food coloring and for its flavor profile.

For example, this natural food additive is present in various industrial foods, such as cheeses, butter, margarine, custards, cakes, and baked products.

In many areas of the world, annatto seeds are ground up into a paste or powder and combined with other spices or seeds in various dishes. As such, it's an important ingredient in cochinita pibil, a traditional Mexican slow-roasted pork dish.

Compared with artificial food colorings, annatto offers antioxidants and has other benefits.

Plus, its seeds can be used to make essential oils that are used in aromatherapy and may have antimicrobial effects.

However, it's important to note that essential oils are meant to be inhaled or applied to the skin. They should not be swallowed as this can be harmful.

Safety and side effects

In general, annatto appears to be safe for most people .

Though it's uncommon, some people may experience an allergic reaction to it, especially if they have known allergies to plants in the Bixaceae family .

Symptoms include itchiness, swelling, low blood pressure, hives, and stomach pain.

In some situations, annatto may trigger symptoms of irritable bowel syndrome (IBS) .

Pregnant or breastfeeding women should not consume it in amounts higher than those normally found in foods, as there aren't enough studies on its safety in these populations.

If you experience any uncomfortable side effects while consuming this food coloring or products that contain it, stop using them immediately and speak to your healthcare provider.

The bottom line

Annatto is a natural food additive that has been linked to various benefits, including reduced inflammation, improved eye and heart health, and antioxidant, antimicrobial, and anticancer properties.

Yet, human studies on its benefits and side effects are *lacking, and more research is needed before it can be recommended for health reasons.*

