



Should You Avoid Nightshades? A Look at the Research

By Lindsay Morris
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While the name might seem ominous and call to mind the contents of a sorcerer's cauldron, nightshades are among the most common fruits and vegetables, and you likely already have some in your kitchen. So, what are nightshades, and are they good for you?

What Are Nightshades?

There are 2,500 species of flowering plants known as nightshades within the *Solanaceae* plant family.

Some of the most commonly consumed nightshades include:

- Bell peppers
- All chile peppers (e.g., jalapeño, habanero, poblano) and spices sourced from chile peppers (such as paprika, chile powder, or cayenne)
- Eggplant
- Goji berries
- Potatoes (but not sweet potatoes)
- Tomatoes and tomatillos

The Benefits of Eating Nightshades

Edible nightshades are some of the most nutritious foods around and have been consumed as part of healthy diets for centuries, says Sharon Palmer, MSFS, RDN.

"Hundreds of studies have found benefits from eating these foods. In particular, tomatoes have garnished a great deal of research documenting benefits, such as [antioxidant](#), [anti-inflammatory benefits](#) and reduced risks of diseases such as [prostate cancer](#) and [heart](#)

[disease](#)," says Palmer. "They have also been linked to [skin](#) and [bone protection](#)."

Meanwhile capsaicin in chile peppers may promote [hair growth](#) and reduce your [cardiovascular and cancer risk](#). And [potatoes](#) are loaded with [mood-regulating](#) carbohydrates and [muscle-building protein](#).

Are Nightshades Poisonous to Humans?

Members of the *Solanaceae* plant family contain alkaloids, including [solanine](#), a natural insecticide. Solanines in belladonna, the so-called "[deadly nightshade](#)," can cause delirium, hallucinations, and even death. However, the nightshades we commonly consume contain nowhere near high enough levels to cause similar harm.

"There is not enough scientific support documenting that people need to avoid nightshades due to alkaloid content," says Palmer.

That being said, potato sprouts and areas of the potato that have turned green from sun exposure contain higher concentration of solanine and, therefore, should be avoided. Symptoms of [solanine poisoning](#) include abdominal pain, vomiting, diarrhea, fever or hypothermia, headaches, and a slow pulse or breathing.

Do Nightshade Vegetables Cause Inflammation?

Search the internet for the word nightshades, and you're bound to stumble on plenty of articles warning about inflammation and arthritis pain. But no research has turned up evidence that nightshades affect the joints.

"There is a lot of urban legend and misinformation about nightshades being perpetuated over the internet and social media," says Palmer. "Some people believe that they should avoid nightshades to reduce inflammation for arthritis benefits. However, studies have found that many nightshade vegetables reduce inflammation levels in the body."

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It's worth noting that the Arthritis Foundation put nightshade vegetables, namely bell peppers, on its list of ["Best Vegetables for Arthritis."](#) Red and yellow bell peppers contain the carotenoid [beta-cryptoxanthin](#), which [could reduce your risk](#) of developing inflammatory disorders like rheumatoid arthritis. Additionally, tomatoes and peppers are excellent sources of bone- and cartilage-preserving [vitamin C](#), with a single [bell pepper](#) containing more than 150% of the Food and Nutrition Board's daily recommended amount. Eggplants, meanwhile, are rich in anti-inflammatory [anthocyanins](#) as well as the essential trace element [manganese](#), which is important to bone formation.

"The scientific evidence [regarding nightshades and inflammation] isn't very strong at this time," says triple board-certified rheumatologist Micah Yu, MD, who also practices integrative medicine. "Maybe in 10, 20 years, we'll have more evidence."

Yu notes that there's no test to determine whether someone might have a sensitivity to nightshades. If you suspect nightshades are an issue for you, he suggests keeping [a food diary](#) and seeing whether certain foods correspond with your inflammatory symptoms or other adverse reactions. You can try avoiding a food to see if symptoms improve, then reintroducing the food to see if symptoms return. If they return, it's reasonable to continue avoiding the food, and consult with a registered dietitian.

Nightshades and Inflammatory Bowel Disease

At least two studies have suggested potatoes could aggravate [inflammatory bowel disease](#). Both were performed using mice, not humans.

In [one study](#) from 2002, researchers isolated solanine and the glycoalkaloid chaconine, present in potatoes, to test intestinal permeability and function. They concluded that levels of solanine and chaconine typically found in potatoes can adversely affect a mammal's intestine and exacerbate IBD.

In [a 2010 study](#), mice were fed deep-fried potato skins. Researchers found that deep-frying the potato skins increased glycoalkaloid content and that glycoalkaloid consumption significantly aggravated intestinal inflammation in mice representing two models

mimicking human IBD (interleukin 10 gene deficiency and dextran sodium sulfate-induced colitis).

But the data are limited, says Vanita Rahman, MD, clinic director of [Barnard Medical Center](#). "We know animal studies don't always translate into meaningful results in humans, so it's really hard to draw any conclusions about human health, as far as inflammatory bowel disease."

Before eliminating nightshades altogether, Rahman recommends talking to a health care provider and exploring whether anything else could be contributing to IBD symptoms. Keep in mind that certain nightshades—potatoes and eggplants—are rich in fiber, which has been linked to a [reduced risk](#) of developing IBD and [greater quality of life](#) in patients with ulcerative colitis.

"The bottom line is [nightshades] really are nutritious vegetables that contain a lot of important nutrients for us," says Rahman. "They have a lot of health benefits. So, most people should consume them in ways that they find enjoyable."

Nightshade Recipes

There are plenty of opportunities to reap the health benefits of these delightful fruits and vegetables. Check out these roundups of favorite recipes from Forks Over Knives to get you started.

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Awesome Vegan Eggplant Recipes

From baba ghanoush flatbreads to vegan eggplant parm to ratatouille, these recipes showcase eggplant's melt-in-your-mouth deliciousness.

Potato Power: Spectacular Spud Recipes to Supercharge Your Day!

It's easy to see why potatoes are so universally beloved. Transform humble taters into impressive entrees, savory side dishes, delectable vegan "cheese" sauce, wholesome homemade bread, and more.

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Our Favorite Red, Yellow, and Green Bell Pepper Recipes

Brighten your kitchen and delight your taste buds with these colorful and creative bell pepper recipes.

Plant-Based Recipes to Make the Most of Tomato Season

Harness the ripe, juicy goodness of fresh tomatoes for full-flavored soups, bruschetta, grain bowls, marinara, and more.

For more guidance in healthy cooking, check out [Forks Meal Planner](#), FOK's easy weekly meal-planning tool to keep you on a plant-based path. To learn more about a whole-food, plant-based diet, visit our [Plant-Based Primer](#).