

#### **Food Facts**

# Is This Vibrant Root the Ultimate Pet-Friendly Treat?

This beta-carotene-rich food can help boost your pet's eyesight and immune health. If you have a teething puppy, giving them a raw frozen piece (with supervision, of course) can help ease their teething pain.

## Reviewed by Dr. Becker

## STORY AT-A-GLANCE

- Carrots contain beta-carotene, which may help improve your pet's health in several ways, such as boosting immune response
- Carrots contain polyacetylenes, an organic class of compounds that have potent antimicrobial and antimycobacterial benefits, playing a key role in mycotoxin detoxification
- You can steam and puree carrots before feeding them to your pet. If you intend to serve carrots raw, be sure to wash, peel and then cut them into bite-sized chunks
- If your dog has a sensitive stomach, steaming carrots before feeding is recommended
- Remember to rotate carrots with other healthy treats to make sure your pet gets a variety of nutrients to help optimize their health

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Carrots are enjoyed around the world for their flavor and crunchiness, and their inherent nutrients may benefit your health as well. Wouldn't it be great if your pet could enjoy them, too?

If the thought of feeding carrots to your pet doesn't appeal to you, it's time to reconsider. Steamed or raw, carrots can be enjoyed as a delicious snack, and they're much healthier than commercially made pet treats. In addition to being a snack, carrots can be part of a nutritionally adequate, species-appropriate diet. Whichever way you choose to include carrots, it'll be a win for your pet, as long as the serving size is controlled.

### Where Did Carrots Come From?



Carrots were a part of prehistoric human civilization. Historians believe that the vegetable originated in Eurasia and was subsequently cultivated in China around the 11th century before reaching Europe during the 13th century. Today, China, Uzbekistan and Russia are the top carrot producers of the world. 2



# The Principal Phytonutrient of Carrots — Beta-Carotene

Perhaps the greatest claim to fame of carrots is their beta-carotene content, a precursor phytonutrient (as well as a carotenoid) that transforms into vitamin A in dogs (cats need to consume preformed vitamin A directly from meat sources<sup>3</sup>). Beta-carotene is also responsible for the common orange color of carrots.<sup>4</sup>

Beta-carotene may be one of the most important nutrients for boosting your dog's immune health. In one noteworthy study, researchers had this encouraging conclusion about beta-carotene for dogs:<sup>5</sup>

"In summary, older dogs have lower immunological responses compared with younger controls. Beta-Carotene supplementation significantly restored immune responses in older dogs when compared with their age-matched controls and younger counterparts."

As dogs age, they may develop poor eyesight, just like us humans. However, beta-carotene, along with other carotenoids, may help reverse that problem. A study published in the Journal of Nutritional Science found that dogs that received carotenoids had improvements in various eyesight functions.<sup>6</sup>



## Did You Know?

In the off chance you have a rabbit, don't give them carrots on a regular basis. Bugs Bunny was wrong all along!

Daily carrots fed to rabbits can harm their health because of too much carbohydrates.<sup>7</sup> The carrot-eating habit of Bugs Bunny was actually inspired by Clark Gable's portrayal of Peter Warne in the movie "It Happened One Night."<sup>8</sup>



# **Other Phytochemicals in Carrots**

Carrots also contain other phytochemicals, namely phenolics, polyacetylenes and ascorbic acid. According to a 2019 study, these substances can bring various benefits to the table:<sup>9</sup>

"These chemicals aid in the risk reduction of cancer and cardiovascular diseases due to their antioxidant, anti-inflammatory, plasma lipid modification, and anti-tumor properties."

Ascorbic acid, commonly known as vitamin C, is an essential nutrient that must be obtained from the environment regularly, and its importance is well-documented. According to the Canadian Journal of Veterinary Research, vitamin C is a crucial cofactor "for enzymes involved in the biosynthesis of collagen, carnitine and norepinephrine." Furthermore, vitamin C has antioxidant capabilities.<sup>10</sup>

Meanwhile, in vitro studies of polyacetylenes show their potential against cancer. They're toxic to various cancer cell lines as well as possess potent "antifungal, anti-inflammatory and anti-platelet aggregatory characteristics." As for phenolics, they act as an antioxidant protecting against reactive oxygen species. 12

Polyacetylenes also play a key role in detoxifying the body from mycotoxins<sup>13</sup> (including aflatoxin B1). Mycotoxin contamination is one of the main reasons for pet food recalls,<sup>14,15</sup> and research shows many brands of pet food contain mycotoxins that can damage your pet's organs and create disease.<sup>16,17</sup>



The "carot" in "beta-carotene" was derived, literally, from carrots by German chemist Heinrich Wilhelm Ferdinand Wackenroder back in 1831. During one of his experiments, he extracted beta-carotene by pressing out the juice of carrots, then isolated it with ether.<sup>18</sup>



# **Preparing Carrot Treats for Your Pet**

Misinformation about many healthy fruits, vegetables, nuts and seeds abounds on the internet. This is because websites have labeled all risks (such as the risk of over-consumption causing gastrointestinal issues, or choking on too large of pieces or pits) as "toxicities," which isn't true, but has managed to confuse millions of pet lovers, nonetheless.

That being said, carrots have none of those problems, as long as you offer them in very small pieces to avoid choking risks and you feed them to your pet in moderate quantities.

"You should also choose certified organic produce, whenever possible. Make sure to purchase organic or 'spray-free' carrots from certified producers."

According to the Environmental Working Group (EWG), carrots rank 32nd in their "2024 Shopper's Guide to Pesticides in Produce™." This means that the carrots found in your grocery store are likely to be sprayed with pesticides, but they're not among the most heavily contaminated "Dirty Dozen."

Raw carrots should be cut into bite-sized pieces so they're easy to chew. Wash the carrots thoroughly and peel them, especially if they aren't organic.<sup>20</sup> Here are other suggestions when feeding carrots to your pets:<sup>21</sup>

- Grate a carrot to use as a topping for their meals.
- After cooking a carrot, mash and mix a little bit into their dinner.
- Slice carrots into chips and dehydrate them. Dried carrot slices are excellent, shelf-stable treats.
- If your dog has a sensitive stomach, steaming carrots before feeding is recommended.<sup>22</sup>
- With supervision, large, frozen carrots may be beneficial for teething puppies and can be a cheaper alternative to chew toys. These may help ease their teething pain and enhance dental health.<sup>23</sup>

Again, when feeding treats to your pet, limit the amount to less than 10% of your pet's daily caloric intake. The bulk of your pet's nutrition must still come from a species-appropriate diet. Treats are only there to serve as a healthy snack — they should not be considered as a replacement meal.

## Go Ahead and Give the Occasional Carrots to Your Pet

The verdict is in — carrots can be a nutritious, occasional treat for your pet, provided they come from certified organic sources and are given in the recommended amounts. Remember to rotate carrots with other healthy treats to make sure your pet gets a variety of nutrients to help optimize their health.

#### **Sources and References**

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