

THE
FOREVER DOG
LIFE



PREBIOTIC-RICH FRESH FOODS

you can share with your pets



Endive, escarole, and radicchio: All members of the chicory family are fine to use as toppers to any base food. These greens are loaded with prebiotic fiber that feeds the beneficial bugs in the gut.

Dandelion: All parts of the dandelion are edible—the flowers, stems, leaves, and roots. Dandelions are loaded with prebiotic fiber and have a cleansing effect on the liver and bloodstream. Dandelions are more nutritious than kale and are chock-full of vitamins (C, beta-carotene, and K) and potassium. Now that's a free medicine cabinet in your backyard! (Just make sure they have not been sprayed.) You also can find fresh dandelion greens in many grocery stores.

Okra and asparagus are great sources of not just prebiotics and vitamins. Asparagus is one of the few foods that naturally contains glutathione, a fundamental chemical serving as a master internal antioxidant and detoxifier that the brain loves. Both of these veggies can be sliced raw for perfect training treats or can be steamed and shared in the bowl.

Cruciferous veggies like broccoli and arugula: In addition to being loaded with gut-friendly fiber, cruciferous vegetables also come with vitamins, antioxidants, and substances with anti-inflammatory effects. Broccoli in particular contains two supermolecules: 3,3'-Diindolylmethane (DIM) and sulforaphane, which naturally boost glutathione levels. DIM helps the body manage a healthy balance of hormones and clear xenoestrogens (environmental chemicals that mimic estrogen) that can muck up the system. Research in dogs also shows DIM can also have antitumor/anticancer activity. And sulforaphane has been studied for bone and bladder cancer in dogs with impressive results. **A key point:** The magic of sulforaphane is found only when broccoli is eaten; pets and people don't benefit from sulforaphane in supplement form because it degrades so quickly. This magical molecule stimulates apoptosis (healthy, programmed cell death) in the body, which is vital when bad cancerous cells need to be killed. Small broccoli pieces and chopped stems make great training treats; alternatively, recycle the cooked broccoli your family had for dinner (without sauces) into your pet's bowl. If your dog has never had broccoli or brussels sprouts, gentle steaming can reduce gas production until your dog's body adjusts to the new veggies.

Jicama: This crispy vegetable tastes like a cross between an apple and a potato and makes for a perfect training treat. Jicama is incredibly high in the prebiotic fiber inulin as well as vitamin C.

Jerusalem artichoke (sunroot, sunchoke, or earth apple): This knotty tuber root vegetable, which is not related to globe artichokes, comes from the sunflower family and is packed with inulin. Some nutritionists believe sunchoke are the unsung heroes in the veggie root family because they're so versatile and deliver a punch of prebiotics.

Fermented veggies, either store-bought or homemade, are a rich source of probiotics for dogs (and cats, if they're eat them). The problem is getting finicky dogs to eat these twangy, tart blends. If your dog will indulge, make sure they're onion-free and give one quarter of a teaspoon for every ten pounds once a day, mixed in food.

Avocados: This creamy fruit boasts significant amounts of vitamins C and E and potassium, and a lot of folate and fiber. Avocado flesh is chock-full of the same healthy monounsaturated fat found in olive oil—oleic acid—which supports brain function and is important for optimal health at any age. Emerging research shows that avocados also benefit skin, eye, and even joint health. Avocados also contain heart-friendly phytosterols such as beta-sitosterol.

Green bananas: Bananas provide potassium, but they're also high in sugar when fully ripe (one medium banana contains fourteen grams of sugar—that's three and a half teaspoons!). Unripe tropical fruit, on the other hand, has lower fructose content and is made up of resistant starches, which feed your dog's microbiome. In addition, they offer antioxidant, anticancer, and anti-inflammatory tannins, along with carotenoids that help prevent oxidative stress. So seek out the greenest bananas and cube them up the size of peas for tiny training treats.

Raspberries, blackberries, mulberries, blueberries: Berries are an awesome source of prebiotic fiber and are chock-full of polyphenols, including ellagic acid. Kriya Dunlap, PhD, and her colleagues at the University of Alaska, Fairbanks, found that diets supplemented with fruits high in antioxidant compounds can potentially serve to sustain the body's antioxidant levels and prevent exercise-induced oxidative damage. Her research focused on sled dogs, who are constantly vulnerable to muscle damage associated with the rigors of their exercise. In blueberry-fed dogs, she showed that they enjoyed a greater total amount of antioxidants in their blood plasma immediately post-exercise, which better protected them against the deleterious effects of oxidative stress. We use a lot of frozen blueberries as training treats, when fresh blueberries aren't in season. But be forewarned: more than one blueberry for every two pounds of body weight a day (i.e., five blueberries for a ten-pound dog) can lead to completely benign dark blue poop, so feed a few, then move on to other Longevity Foods as healthy rewards that day.

Strawberries: These red jewels get an extra special shout-out because they contain a little-known antiaging secret called "fisetin," a plant compound that researchers have long studied for its antioxidant and anti-inflammatory properties. Recently, scientists have discovered it also kills senescent cells—those zombie cells that are a hallmark of premature aging. A cell study published in the journal *Aging* showed that it eliminated

about 70 percent of senescent cells—while doing no harm to healthy, normal cells. As a reminder, cell senescence is when cells lose their ability to divide but do not die, leading them to accumulate and inflame surrounding cells. In one striking study, mice exposed to fisetin lived 10 percent longer and experienced less age-related issues than the control group, even at an older age. These findings prompted the Mayo Clinic to sponsor an ongoing clinical trial examining the direct effects of fisetin supplementation on age-related dysfunction in humans. Fisetin also mimics all the positive effects of fasting (including reducing mTOR and boosting AMPK and autophagy) in addition to protecting the heart and nervous system. Occasionally, you'll read information that suggests avoiding feeding strawberries to dogs; this comes from the rare possibility that dogs can consume too many green leafy strawberry stems and can cause an upset stomach. Removing the green stem removes any risk of GI upset. Choose spray-free or organic strawberries.

Pomegranate: Pomegranate has been shown to help protect cells and, especially, the heart. Cardiac diseases are considered to be the second-most-prevalent cause of death for dogs. Valvular endocardiosis and dilated cardiomyopathy are the most common of these and are known to be more prevalent in aged dogs. Oxidative damage leading to cell death may constitute one of the most proximal of the cascade of events that results in heart failure. In a study published in the *Journal of Applied Research in Veterinary Medicine*, scientists found that feeding pomegranate extract to a dog has incredible protective heart and health benefits. Pomegranates also contain molecules called “elligantans,” which our gut microbes convert to urolithin A. Urolithin A has been shown to regenerate mitochondria in worms—increasing their life span by more than 45 percent. These encouraging results prompted scientists to test their findings in rodents, and the effects proved similar. Older mice showed signs of increased mitophagy (self-destruction of damaged mitochondria) and demonstrated better running endurance compared to the control group. You'd be surprised how many dogs will eat these tart, crunchy little jewels mixed in with their food, about a teaspoon for every ten pounds.