

A Nutrient-Rich Snack Full of Essential Amino Acids for Your Pet

Called 'Mother Nature's original superfood,' this simple, easy to prepare and inexpensive source of bioavailable nutrients is a staple food around the world, but did you know that it can be shared with pets as well?

Reviewed by [Dr. Becker](#)



STORY AT-A-GLANCE

- The humble egg contains various bioactive compounds, such as phospholipids and antioxidants that may promote better vision and immune response
- It also has all 10 essential amino acids that your pet needs — these are required for various functions, such as metabolic regulation, gene expression and cell signaling
- Choline, which helps lower the risk of "doggy dementia," is also found in this superfood
- Ideally, buy eggs that come from pasture-raised animals, as these come from a sustainable environment that follows the animal's natural habitat and protects the farmer's health

Editor's Note: This article is a reprint. It was originally published July 14, 2020.

The humble egg is an essential cooking ingredient around the world. It's used in countless recipes throughout various cuisines, but sometimes it's just best enjoyed by itself. It's also celebrated for its nutritious benefits, such as being an important source of protein.¹

As it turns out, your pet can also enjoy pastured eggs, even raw, and consuming eggs can benefit their health, as well. In fact, it's the ultimate longevity snack, as it is low in calories while simultaneously being rich in bioavailable nutrients, such as amino acids and healthy fats. Whether it comes from chicken, quail or duck, the humble egg delivers.



Eggs Fun Fact

The consumption of eggs reaches way back into prehistoric times. Ancient Egyptian and Chinese records indicate that fowl were already laying eggs for their civilizations as early as 1400 B.C.²



Bioactive Compounds in Egg: Phospholipids

One of the main bioactive compounds in eggs are phospholipids, which are lipids found in all plant and animal cell membranes.³ They're responsible for defining the permeability barrier of the cell membrane and the internal organelles of that particular cell. Furthermore, phospholipids are essential for allowing the entry of other molecules into the cell.⁴

Numerous studies about phospholipids have already been published, and with positive results. In one research paper published in 2009, the study authors noted that dietary phospholipids exhibited an anti-inflammatory effect on rats, specifically in the context of arthritis.⁵ In another example, the anti-inflammatory quality of phospholipids exhibited a positive effect on pleurisy in rats.⁶

Phospholipids may also have a beneficial effect on brain development. In a study published in 2003, researchers supplemented test rats with a diet enriched with egg phospholipids. By the end of the study, they noted that the phospholipids helped enhance acetylcholine release and correct polyunsaturated fat (PUFA) composition.⁷ PUFAs play an important role in brain function, such as regulating cell survival, neurogenesis, synaptic function and neuroinflammation.⁸

Eggs Are a Good Source of Lutein and Zeaxanthin

Pastured eggs are another source of the essential nutrients lutein and zeaxanthin.⁹ Aside from being bioactive compounds, lutein and zeaxanthin play the role of antioxidants that are especially beneficial for eye health. The majority of these two compounds are located in the retina, and they are believed to help protect against the oxidative effects of blue light and reduce chromatic aberration.¹⁰

In animals, the same benefits can be observed based on published studies. An analysis noted that intake of lutein and zeaxanthin in dogs may help with vision-related issues such as age-related macular degeneration, cataract formation and uveitis.¹¹ Another study supports this conclusion as well.¹²

What's interesting about lutein is that it may also play a role in canine immune response. According to a 2000 study published in *Veterinary Immunology and Immunopathology*, female beagle dogs that were supplemented daily with lutein for 12 weeks had an increased lymphocyte response as well as immunoglobulin G. Researchers concluded that "dietary lutein stimulated both cell-mediated and humoral immune responses in the domestic canine."¹³

Eggs Are Also Rich in Choline

Another notable bioactive compound in eggs is choline, which is connected to the phospholipids in eggs that were mentioned earlier. Specifically, choline plays a role in synthesizing two major phospholipids, phosphatidylcholine and sphingomyelin, which are major lipids found in cell membranes. In short, choline is important for helping all animal (and plant) cells preserve structural integrity.¹⁴

Aside from optimal phospholipid health, choline is shown to be important for general health in pets. In a 2019 study published in *Veterinary World*, choline also played a role in proper heart, brain and liver function. High-performance dogs, particularly sled dogs, may benefit from choline intake to help maintain athletic performance.¹⁵ Regular intake of choline may even lower the risk of "doggy dementia."¹⁶

Eggs Can Provide Essential Amino Acids for Your Pet

Did you know that eggs contain all 10 essential amino acids?¹⁷ Amino acids are molecules that eventually combine to form proteins throughout the body and are popularly known as the "building blocks of life."¹⁸ This is why eggs are one of the best snacks you can give to your pet.

In a paper published in 2014, it's noted that animals require amino acids for various functions, such as metabolic regulation, gene expression and cell signaling.¹⁹ Furthermore, amino acids, particularly the branched-chain variety, are the foundation to building muscle tissue and protein synthesis in animals.²⁰

Top Egg Producers Worldwide



According to Statista, the world's top producer of eggs is China, which produced around 596.5 billion eggs in 2020. Second place belongs to India, with just 114.4 billion eggs produced. Third place is Indonesia, coming in behind India at 112.1 billion eggs.²¹



Where Your Eggs Come from Matters

Ages ago, the earliest dogs scavenged for eggs from bird's nests and ate them all, even the shell (eggshell membrane is exceptionally beneficial for joint health!²²). However, most eggs today are on the opposite end of the humane spectrum. They generally hail from concentrated animal feeding operations (CAFOs), where chickens live in unhygienic and inhumane environments.²³

Another issue with conventional egg production is its effect on the environment — the high levels of ammonia and other air pollutants from these facilities can have negative health effects on people living nearby. In a study published in 2015, researchers noted that poultry farm workers encountered high levels of ammonia, bacteria and dust, which can cause breathing problems such as coughing, wheezing, bronchial hyper-responsiveness and even changes in lung function.²⁴

Aside from the health aspect of the farmers, there's also the environmental aspect that needs to be more widely known. According to a report from FoodPrint, water consumption of the egg industry is less than that of beef or chicken meat production. However, CAFO egg facilities can produce more manure than the surrounding land can absorb, which can contaminate local water sources.²⁵

"When buying eggs for yourself and your pet, try to look for ones that are certified organic from pasture-raised chickens."

Pasture-raised animals are raised in an environment conducive to their welfare, one that avoids growth hormones and provides clean, hygienic spaces. In fact, environment plays such an important role in the quality of eggs that pasture-raised eggs contain more omega-3 fats than conventionally grown eggs.²⁶



Did You Know? There's an Annual Celebration for the Humble Egg

Dubbed the World Egg Day, it's held every second Friday in October. More than 100 countries partake in the festivities to commemorate this food's impact on culture and nutrition.²⁷



How to Serve Eggs to Your Pet

One of the best things about eggs is their culinary versatility. Scrambled, sunny-side up or used as a binder for other ingredients, eggs are employed in countless dishes throughout the world. But for your pet, you can either feed eggs raw, with or without their shell, or lightly cook them first. (Remember: Don't overcook eggs!)

There's a lot of misinformation about many healthy foods on the internet, because many websites have labeled all risks (such as the risk of overconsumption 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.

In the case of eggs, a common concern among pet parents is biotin deficiency. That's because egg whites contain avidin, which is a biotin-binding protein. However, the occurrence of biotin deficiency in dogs is basically unheard of and certainly not caused by excessive egg consumption.

Soft-boiling is the best way to cook an egg, as a lightly cooked approach makes the B vitamin biotin easier to digest for your pet. Heating egg whites is generally beneficial, but the yolk would be better if it's only lightly cooked to protect the essential nutrients therein. That's why soft-boiling eggs is the best approach. To make soft-boiled eggs:

1. Simply fill a medium pot with water and heat to a gentle simmer.
2. Dip the eggs into the water using a slotted spoon and let them boil for seven minutes. You can also boil the eggs for just six minutes if you want a runnier egg.

Keep in mind that eggs, when used as treats, should only constitute less than 10% of your pet's caloric intake. This strategy helps ensure that your pet doesn't overeat. Moreover, the bulk of your pet's nutrition should still come from healthy, nutritionally adequate and species-appropriate meals.

Sources and References

¹ [Cleveland Clinic, July 7, 2021](#)

² [The Incredible Egg, "HISTORY OF COMMERCIAL EGG PRODUCTION"](#)

³ [Lipids Health Dis. 2012; 11: 3, Abstract](#)

⁴ [LibreTexts, "14.3: Phospholipids in Cell Membranes"](#)

⁵ [Eur J Pharmacol. 2009 Nov 10;622\(1-3\):58-64, Abstract](#)

⁶ [Eur Surg Res. 2009;42\(1\):40-8, Abstract](#)

⁷ [Neurobiol Aging. Mar-Apr 2003;24\(2\):233-43, Abstract](#)

⁸ [Nature Reviews Neuroscience, volume 15, pages 771-785 \(2014\), Abstract](#)

⁹ [Nutrients. 2015 Sep; 7\(9\): 7889-7913, Abstract](#)

¹⁰ [Nutr J. 2003; 2: 20, Introduction](#)

¹¹ [J Ophthalmol. 2015;2015:523027, Abstract](#)

¹² [IOVS, June 2011, Volume 52, Issue 7, Abstract](#)

¹³ [Vet Immunol Immunopathol. 2000 May 23;74\(3-4\):315-27, Abstract](#)

¹⁴ [NIH, "Choline"](#)

¹⁵ [Vet World. 2019 May; 12\(5\): 671-676, Discussion](#)

¹⁶ [Paws & Claws, January 1, 2014](#)

¹⁷ [Animals \(Basel\). 2020 Mar; 10\(3\): 406, Abstract](#)

¹⁸ [MedlinePlus, "Amino Acids"](#)

¹⁹ [Annu Rev Anim Biosci. 2014 Feb;2:387-417, Abstract](#)

²⁰ [Journal of Animal Science and Biotechnology volume 8, Article number: 10 \(2017\), Abstract](#)

²¹ [Statista, "Leading Egg-Producing Countries Worldwide in 2020"](#)

²² [Clin Interv Aging. 2018; 13: 285-295](#)

^{23,25} [FoodPrint, "The FoodPrint of Eggs"](#)

²⁴ [J Occup Environ Med. 2012 Feb; 54\(2\): 177-183, Abstract](#)

²⁶ [Renewable Agriculture and Food Systems, 2010 Mar;25\(1\):45-54](#)

²⁷ [International Egg Commission, "World Egg Day"](#)
