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Food Facts

The Most Nutrient-Dense Foods You Can Offer to Your Pet

Often dismissed as unconventional and unappetizing, these cuts actually offer superior nourishment, and are great for improving your pet's nutrient intake. Here's how you can incorporate it into their meals and treats.

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STORY AT-A-GLANCE

- Organ meats are the non-muscular meats derived from cows, lambs, pigs and poultry. Some of the commonly consumed organ meats include the liver, heart and kidneys
- Organ meats are an excellent source of vitamins and minerals necessary to support your pet's biological functions, as well as high-quality proteins and amino acids
- One of the most valuable compounds found in high amounts in organ meats is alpha-lipoic acid, an organosulfur compound that plays a role in numerous biological processes and exerts antioxidative properties
- You can feed organ meats to your pet raw, freeze-dried, dehydrated or gently cooked, as a nutritious treat or as a meal topper to a nutritionally complete, homemade diet

Organ meats are the non-muscular meats derived from cows, lambs, pigs and poultry. Many humans would think that these types of protein are unappetizing, but most dogs and cats would likely disagree. Not only do organ meats add a flavorful medley of distinct textures to your pet's meal, but they also provide a rich nutrient profile that mirrors your pet's ancestral diet.

In this article, I'll discuss the different types of organ meats and the benefits they can provide for your pets, as well as how to incorporate them in your furry friend's nutritionally balanced, homemade food.

Organ Meats Are Safe (and Highly Recommended!) for Pets

Prepared and cooked in various ways, organ meats have been a part of people's diet for thousands of years. Some of the most popular organ meat dishes include pâté made from ground liver, sweetbreads made by sautéing pancreas, and chitterlings, which are fried pork intestines popular in the South.¹ In recent decades, however, the consumption of organ meats has decreased, as people became less accustomed to eating it and are generally unfamiliar with how to prepare and cook these cuts.

Misinformation about many healthy foods also abounds on the internet, preventing people from adding these nutritious options into their diet as well as those of their pets, thus missing out on their numerous benefits. In the case of organ meats, some believe they're unhealthy and unsanitary because they were filters for toxins in the animals they came from.

But while organ meats may be filters, they are not storehouses of toxins, per se. What they do store are the vitamins and minerals they need to get their job done, which is why organ meats are actually nutrient-dense.

"Fresh, unprocessed organ meats remain one of the most concentrated food sources of highly digestible vitamins, minerals and macronutrients."

Organ meats are a staple in your pet's ancestral diet. In fact, your pet's relatives in the wild obtain some of the essential nutrients they need from the internal organs of their prey.

Different Types of Organ Meats to Share With Your Pet

Another term for organ meats prepared and consumed as foods is offal. Below are some of the organ meats that you can offer your pet,^{2,3} each of them providing a unique array of health-boosting nutrients:

Liver — One of the most nutritious organ meats, hence why it's also called "Nature's Multivitamin."⁴ It's an excellent source of copper — 100 grams of raw beef liver contains 9.76 milligrams of this mineral,⁵ which is "essential for cellular respiration, free radical defense, neurotransmitter function and tissue biosynthesis."⁶ Because excess copper consumption isn't healthy, liver should be fed in small quantities as treats.

Liver is also rich in vitamin A,⁷ which plays a role in "supporting vision, bone growth, reproduction, cellular differentiation and immune response,"⁸ as well as B vitamins, including vitamins B1, B2, B6 and folate,⁹ which all support the enzymatic processes involved in various physiological functions, such as the brain and nervous system.^{10,11} Liver is often used as an ingredient in homemade pet food recipes to meet vitamin A and copper requirements.

Heart — This is one of the richest whole food sources of taurine,^{12,13} which is a critical part of pets' diet, particularly in cats, as they haven't developed the ability to synthesize this amino acid in their body. A deficiency in taurine has been linked to dilated cardiomyopathy (DCM) in both dogs and cats. I recommend offering your pet high-taurine foods, no matter what type of diet they are eating.¹⁴

The heart is also a good source of coenzyme Q10 (CoQ10). Every gram of beef heart provides 109.97 micrograms of CoQ10, with a higher digestibility than CoQ10 from muscle meat. This compound exerts antioxidant actions and plays a role in cellular respiration and energy production.¹⁵

• **Kidneys** — The kidneys store important minerals such as zinc, calcium and selenium, which can help counteract deficiencies in your pet.¹⁶ However, one of the most important compounds found in the kidneys is diamine oxidase (DAO),¹⁷ an enzyme that metabolizes histamine and prevents its buildup in your pet's

body.^{18,19} Histamine buildup can cause symptoms similar to allergies, such as itching and redness.

- **Spleen** This organ contains its fair share of B vitamins,²⁰ and is a good source of iron, an essential mineral that plays a role in multiple biochemical pathways, such as in transporting oxygen, producing red blood cells and metabolizing energy.²¹
- **Tongue** A good source of oleic acid, also known as omega-9. According to a study published in the Journal of Food Composition and Analysis, "the oleic acid composition in tongue was 44% of the total fatty acid content, which was the highest of all beef variety meats tested (including kidney, liver and heart)."²² Oleic acid may help boost cardiovascular health through its anti-inflammatory properties and may help improve insulin sensitivity.²³

- **Pancreas** Fresh pancreas is the best food source of digestive enzymes, including lipase, amylase and protease, and can be beneficial for animals with pancreatitis insufficiency and chronic gut problems.
- **Tripe** "Green" or unbleached tripe is fresh, cleaned intestines, and is often used as a topper to stimulate the appetites of finicky pets, or pets that have poor appetites.

Alpha-Lipoic Acid: A Powerful Compound Found in Organ Meats

Aside from micronutrients and compounds discussed above, another valuable compound found in high amounts in organ meats is alpha-lipoic acid (ALA). ALA is an organosulfur compound that plays a role in numerous biological processes, including acting as a cofactor for enzymes involved in cell energy production, as well as supporting glucose and lipid metabolism.²⁴

Moreover, it's known to exert powerful antioxidant properties via different mechanisms of action, such as by scavenging free radicals, increasing glutathione synthesis and helping regenerate other antioxidant factors like vitamins C and E.²⁵ ALA can also protect the cells against oxidative damage from the inside out, as it's soluble in both water and fat, allowing it to reach lipid-based parts of the cell. According to a study published in Animals (Basel):²⁶

"It can function as an antioxidant essentially in all tissues and is referred to as a universal antioxidant or the antioxidant of antioxidants. Because of its potent antioxidant properties, ALA has been shown to contribute to cardiovascular and cognitive health, anti-aging, detoxification, anti-inflammation, anti-cancer, and neuro-protection."





The liver, heart and kidneys contain the highest concentrations of ALA among organ meats.²⁷

Organ Meats Are Packed With High-Quality Proteins and Amino Acids

Organ meats are a rich reservoir of high-quality proteins, which are the fundamental building blocks of your pet's cells and a macronutrient they must obtain from animal-based sources. Organ meats also provide the essential and nonessential amino acids your pet needs for normal growth, development and reproduction.^{28,29} These include arginine, histidine, isoleucine, leucine, lysine, methionine, phenylalanine, tyrosine, threonine, tryptophan and valine.^{30,31}

Organ meats also contain high amounts of collagen, the primary protein in connective tissues and is necessary for

healthy bones, joints, skin and coat.³² In fact, the heart contains twice as much collagen as muscle meats.³³



Organ Meats Are Highly Sustainable

Aside from their numerous health benefits, another good reason to consider adding organ meats to your pet's meals (and yours) is to encourage sustainability. Consuming organ meats instead of throwing them away not only reduces significant amounts of food waste but also helps decrease global greenhouse gas emissions by as much as 12.5% — that's equivalent to taking 214 million cars off the road per year!³⁴



The Best Way to Serve Organ Meats to Your Pet

Organ meats can be found in many ultraprocessed pet food and commercial pet treats. Unfortunately, these products may also contain inappropriate ingredients like grains, unnecessary fillers, rendered animal by-products, chemical flavorings and preservatives. They may have also undergone high-heat processing, which can significantly compromise their nutrient content.

For this reason, I recommend avoiding commercial treats and processed foods containing organ meats. Your best bet is to look for fresh, unprocessed organ meats online and from your local farmers market, ethnic grocery stores or small, independent pet stores. Opt for grass fed, free-range varieties whenever possible. You should also consider connecting with a trustworthy local butcher who uses sustainable farming methods to guarantee that the organ meats you're buying are safe, sustainable and high-quality.

You can feed organ meats to your pet raw, freeze-dried, dehydrated or gently cooked, as a nutritious treat or as a meal topper to a homemade diet, in conjunction with other ingredients that comprise a nutritionally complete meal. Adding a variety of organ meats to their food bowl is a good idea to diversify the nutrients they'll receive.

When used as treats, use the "paw principle" to portion their daily intake. That is, the size of one of your dog's paws, width plus length (and a depth of where the pad turns to hair), is a reasonable amount of daily organ meat treats for most healthy, active dogs. Chop the organ meats into small, bite-sized pieces — the smaller you make them, the more pieces your pet gets to eat.

Try Making This Tasty Liver Treat for Your Pet

Now that you know all about the benefits of organ meats to your pet's health, try recreating the homemade pet treat recipe below, which uses liver as an ingredient. Just keep in mind that healthy treats, including organ meats and snacks that contain them, should make up less than 10% of your pet's daily caloric intake.

Chewy Parsley Liver Cubes

Ingredients:

- 🍄 1 lb. beef liver, thinly sliced
- 1 tablespoon dried parsley

Procedure:

- 1. Dry the liver slices by blotting them with a paper towel, and then dust them with parsley.
- 2. Transfer the liver to a greased cookie sheet, and bake for 40 minutes at 245°F (118°C).
- 3. Remove the cookie sheet from the oven, flip the liver slices, and then bake for another 25 minutes.
- 4. Once the liver is cooked, transfer to a cooling rack. Once cool, cut into bite-sized cubes.

Note: Store in the fridge for 1 week, or in the freezer for up to 3 months.

Sources and References

¹ <u>Eater, June 16, 2015</u>

² Nutrition Advance, September 25, 2023

- ³ Britannica, Offal
- ⁴ Food & Nutrition Magazine, January 20, 2016
- ^{5,7,9} USDA FoodData Central, Beef, variety meats and by-products, liver, raw
- ⁶ International Journal of Livestock Research, 2015, Vol. 5, No. 12, 1-20 ref. 102
- ⁸ Br J Nutr. 2012 Nov 28; 108(10): 1800–1809
- ^{10,16} Animals 2019, 9(8), 489
- ¹¹ Perm J. 2022; 26(2): 89–97
- ¹² J. Anim. Physiol. a. Anim. Nutr. 87 (2003), 251–262
- ¹³ Daily Dog Food Recipes, March 7, 2023
- ¹⁴ PLoS One. 2018; 13(12): e0209112
- ¹⁵ Journal of Food Composition and Analysis. Volume 24, Issue 8, December 2011, Pages 1136-1140
- ¹⁷ <u>Clinical Biochemistry. Volume 30, Issue 7, October 1997, Pages 559-563</u>
- ¹⁸ Food Science and Biotechnology. Volume 28, pages 1779–1784, (2019)
- ¹⁹ Int J Immunopathol Pharmacol. 2016 Mar;29(1):105-11
- ²⁰ USDA FoodData Central, Beef, variety meats and by-products, spleen, raw
- ²¹ Can Vet J. 2012 Mar; 53(3): 250–256
- ²² Journal of Food Composition and Analysis. Volume 88, May 2020, 103433
- ²³ Oxid Med Cell Longev. 2018; 2018: 6053492
- ²⁴ Biomolecules 2019, 9(8), 356
- ²⁵ StatPearls [Internet], Alpha-Lipoic Acid
- ²⁶ Animals (Basel). 2021 May; 11(5): 1454
- ²⁷ Antioxidants 2019, 8(9), 335
- ²⁸ Adv Exp Med Biol. 2021:1285:217-231
- ²⁹ Journal of Animal Science and Biotechnology. 14, Article number: 19 (2023).
- ³⁰ Encyclopedia of Food and Health, Offal Types and Composition
- ³¹ American Meat Institute Foundation, Journal Paper No. 78 (Amino Acid Composition of Organ Meats).
- ³² <u>StatPearls [Internet]. Biochemistry, Collagen Synthesis</u>
- ³³ Dogs Naturally Magazine, December 16, 2021
- ³⁴ Organuary, Environmental Benefits of Organ Meats