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**Food Facts** 

# This Protein Favorite Offers Healthy Benefits

There's a lot to like about this meat: It has healthy fats, antioxidants, iron and protein. Here are helpful tips to remember when feeding it to pets, plus a bonus homemade dog food recipe you can try!

Reviewed by <u>Dr. Becker</u>

### STORY AT-A-GLANCE

- Beef contains an assortment of nutrients that may help support your pet's health, such as protein, omega-3s and thiamine
- Glutathione and superoxide dismutase are also present in beef. These are powerful antioxidants that maintain proper health throughout the body
- Beef can be given to your pets as healthy, nutritious treats or added to their nutritionally adequate, speciesappropriate diet. Make sure you follow a recipe that has been formulated to meet your pet's minimum nutrient requirements

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It's the weekend and you've taken the time to cook a nice steak for dinner. However, there's one little conundrum — your furry friend is right there staring at it, too! So can they have a bite of that beef?

Good news for your pets: Beef can be a delicious and healthy treat for them, or it can even be a wonderful addition to their nutritionally adequate, species-appropriate diet. So what exactly makes beef a boon for their health anyway? As it turns out, there's a lot in beef to like, not just the flavor.



Did You Know?

Myoglobin, a protein found in muscles, is what gives beef its red color. The more myoglobin the meat has, the darker it will be. 2



## The Secret of Beef: Healthy Fats

As indicated in a 2010 study published in Nutrition Journal, beef contains 0.48 grams (g) of conjugated linoleic acid per 100 g of lipid.<sup>3</sup> According to research published in the Journal of Applied Animal Nutrition, linoleic acid is important in the lipid component of skin barrier formation.<sup>4</sup>

Furthermore, beef has a lower ratio of omega-6 to omega-3 fats.<sup>5</sup> Lowering omega-6 intake is essential for maintaining your pet's overall well-being. In one study that used an animal model, excess omega-6 was shown to increase the risk of metabolic disease and cancer, while having lower ratio of omega-6 to omega-3 fats resulted in

healthier test subjects.<sup>6</sup>

Healthy fats have been found to benefit heart health in dogs through their antiarrhythmic effect, as well as minimizing the "loss of heart muscle in dogs with congestive heart failure." In another study, dogs with naturally occurring osteoarthritis that were fed a diet high in omega-3 fats exhibited better health for their day-to-day activities. Grass fed beef contains higher levels of beneficial omega-3 fats than grain-fed beef.

#### **Beef Contains Two Powerful Antioxidants**

Another interesting aspect about beef is that it contains two crucial antioxidants: glutathione and superoxide dismutase. According to naturopath Joseph Pizzorno, glutathione is a tripeptide that is present in almost all cells, and it has numerous important functions. Prominent examples include acting as a cofactor for numerous enzymes, helping maintain mitochondrial health, helping protect against endogenous and exogenous reactive oxygen and nitrogen species, as well as helping remove mercury from the cells. 11

Superoxide dismutase, on the other hand, is another frontline defender against reactive oxygen species. According to a study published in 2018, superoxide dismutase has displayed therapeutic potential in animal models, with positive results against: 12

- Inflammation
- Myocardial ischemia-reperfusion injury
- Cerebral ischemia-reperfusion injury

### Which Are the Top Cattle-Producing States?



Texas, Nebraska and Kansas are the top three cattle producers in the entire U.S. Combined, they produce the lion's share of the country's cattle output — a whopping 27%. <sup>13</sup>



## **Beef Contains Protein for a Well-Functioning Body**

A tablespoon of beef provides 3.26 grams of protein.<sup>14</sup> Just like humans, pets need constant intake of this macronutrient to support their well-being. In a 2008 study, researchers noted that protein deficiency in dogs will eventually lower lean body mass. Increasing protein intake (around 50%) also becomes more important as they age in order to maintain proper health.<sup>15</sup> Aside from supporting muscle mass, protein is a source of energy and provides the essential amino acids for numerous hormones and enzymes to function optimally.<sup>16</sup>

But how much protein does your dog need? According to the Veterinary Medical Center of The Ohio State University, adult dogs typically require 1 gram per pound. Adult cats may need at least 2 grams per pound. <sup>17</sup> Let these amounts guide you on how much beef treats you should be giving to your pet while also taking into account your pet's regular diet.

"Remember, the bulk of your pet's nutrition must still come from a species-appropriate diet. Healthy treats should only

### Vitamins and Iron in Beef Provide Health Benefits for Your Pet

Beef contains a diverse set of nutrients, such as B vitamins, vitamins A and K, and iron. <sup>18</sup> A tablespoon-serving of this food offers 0.012 milligrams of vitamin B1, also known as thiamin. In a 2017 study published in Veterinary Sciences, researchers explain the role of this vitamin: <sup>19</sup>

"When in the form of thiamine diphosphate (TDP), it has a critical role as a cofactor in carbohydrate metabolism, in the production of nucleotides and of nicotinamide adenine dinucleotide (NADH), and for nervous system function."

To highlight the importance of vitamin B1, you need to be aware of the importance of NADH for overall health. According to a 2019 study published in Science Advances, when NADH is created from NAD+ (the precursor cofactor), it enters the mitochondria and works its magic.<sup>20</sup> Important biological processes such as ATP production (the energy used at the cellular level<sup>21</sup>) and fatty acid synthesis rely on nicotinamide adenine dinucleotide.<sup>22</sup>

Each tablespoon serving of beef also offers 0.41 micrograms of vitamin K,<sup>23</sup> which has been shown to help with proper blood coagulation.<sup>24</sup> If there is not enough vitamin K in your pet's system, they may experience prolonged bleeding when wounded.<sup>25</sup> Iron, meanwhile, is responsible for transporting oxygen in the blood and energy production.<sup>26</sup> Your pet can get 0.46 milligrams of iron in every tablespoon of beef.<sup>27</sup>

You'll also find 702.5 micrograms of vitamin A in a couple of tablespoons of beef liver, <sup>28,29</sup> which helps support many biological functions. According to The British Journal of Nutrition, vitamin A is responsible for areas such as bone growth, reproduction, immune health and vision.<sup>30</sup>

## **Tips in Feeding Beef to Your Pets**



**Beef Fun Fact** 

Overcooking beef can cause the fats, sugars and proteins to fuse, making the meat chewy and unappetizing.<sup>31</sup> This is why steak is generally served medium-rare.<sup>32</sup>



Take note that when given as treats to pets, healthy add-ins like beef should only constitute less than 10% of their daily caloric intake. You can serve beef either raw or cooked with the bones removed, but other methods such as freeze-dried or dehydrated are great options.

One important reminder: If you want to use beef to make homemade pet food, please follow a recipe that has been formulated to meet your pet's minimum nutrient requirements. This means combining it with other fresh ingredients that can boost the quality of your pet's meal. While you might enjoy your steak with a dash of salt and pepper, it's best to hold off the seasonings when feeding this meat to your pet.

To maximize the nutrient intake from beef, you may opt for the grass fed variety. Research indicates that grass fed beef contains more antioxidants compared to the grain-fed variety.<sup>33</sup> Grass fed beef is also cleaner compared to beef from concentrated animal feeding operations (CAFOs),<sup>34</sup> which may contribute to the spread of foodborne illnesses.<sup>35</sup>

### Here's Another Delicious Beef Recipe for Your Meat-Loving Pet

If you want to prepare a treat for a special event, like your pup's birthday for example, here's a delicious beef-based "cake" recipe from the blog Personal Creations.<sup>36</sup> This recipe makes one mini meatloaf — slice it into small pieces when feeding it to your dog. You can also replace the peas and carrots with their favorite veggies!

### **Meat Lover's Dog Cake Recipe**

#### **Cake ingredients:**

- 1 pound organic pastured, lean ground beef
- 1 egg
- ⁴ 1/2 cup oats
- ⁴ 1/2 cup shredded carrots
- 1/2 cup peas (fresh or frozen)

#### **Frosting ingredients:**

- 1 potato
- ⁴ 1/2 cup water
- Peas and carrots (topping)

#### **Procedure:**

- 1. Preheat oven to 350°F.
- 2. Chop and boil potatoes until soft. This will take about 20 minutes.
- 3. Mix together beef, egg, oats, carrots and peas.
- 4. Grease baking tins with coconut oil and add meat. Bake for 30 to 40 minutes until meat is cooked through.
- 5. While meat is baking, make your mashed potato frosting. Add boiled potatoes to a bowl. Mix with a hand mixer, adding water until your potatoes reach the desired consistency.
- 6. Once the meat cake has cooled, frost with potatoes and decorate with peas and carrots.

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