

ARE DOGS CARNIVORES? HERE'S WHAT NEW RESEARCH SAYS

In veterinary school we learned that cats are carnivores; horses, rabbits and ruminants are herbivores; and pigs and dogs — like people — are omnivores.

But at a nutrition conference I attended earlier this month, an audience of 300-plus nutrition researchers and veterinary professionals was treated to a strong argument in favor of dogs as carnivores.

Urging us to rethink the “dogma” of dogs as omnivores, Dr. Wouter Hendriks of Utrecht University’s veterinary school in the Netherlands laid out a detailed and ultimately convincing argument in favor of canine carnivorous-ness at the Waltham International Nutritional Sciences Symposium in Portland, Ore.

But how can that be, you ask? After all, we’ve been studying the dog’s nutritional needs for a hundred years or more now. Why the sudden shift in thinking on something that seems so basic?

THE OMNIVORE ANGLE

The answer is not so simple, but to understand how we might’ve been led astray, it helps to explain the science behind the omnivore “dogma.” To that end, here are three points in favor of the canine-as-omnivore theory:

1. INTESTINE SIZE

Because meat is relatively easy to digest, the intestinal length of carnivores like cats is relatively short. Plant material is more difficult to break down, so herbivores have much longer intestines. And dogs, like omnivores, fall somewhere in between, with an intestinal length just slightly longer than the cat, so it makes sense that dogs might be classified as omnivorous in this issue.

2. WOLVES EAT GRAINS TOO.

The story goes that the dog’s wild ancestors ate plenty of grains. It’s said not only that wolves will indulge in the occasional berry but that they’ll binge on grains contained within their prey’s stomach too.

3. DOGS ARE ESPECIALLY ADAPTED TO EATING GRAINS, ANYWAY.

It was recently found that dogs are different from their wild cousins in that they have three genes related to starch and glucose digestion. As such, it’s hard to deny that dogs are especially adapted to eating grains and other vegetation.

THE CARNIVORE PERSPECTIVE

Given these fine points, it makes sense that we might rightly consider a dog an omnivore. But it’s apparently not so cut and dry. Consider Dr. Hendriks’ rebuttal to the above:

1. COEFFICIENT OF FERMENTATION.

It's not about intestinal length, says Dr. Hendriks. In fact, when you figure in the wider girth of the feline intestine, the total volume of canine and feline intestines are actually quite similar.

But when comparing animals' gastrointestinal systems, it might be best not to think about length, girth, volume, capacity or any of that. It might be more appropriate to look at a metric called the "coefficient of fermentation." Herbivores have a high ability to extract nutrition from plant matter as the result of their ability to ferment it, and therefore have a high coefficient of fermentation. Carnivores aren't equipped to do this and therefore have a low coefficient of fermentation.

Interestingly, the coefficient of fermentation is similarly low in both dogs and cats

2. THE WOLF MYTH.

Wolf researchers have concluded that wolves are clearly carnivorous. The current literature demonstrates that foraging is a tiny percentage of a wolf's intake, and that wolves tend to leave stomach contents behind after a kill. Furthermore, a literature review in search of the source of the idea that wolves feast on stomach contents came up empty. Dr. Hendriks' conclusion? It's a myth. It's not based on systemic observation.

3. DOGS HAVE ADAPTED WELL... BUT THAT DOESN'T MAKE THEM CARNIVORES.

In the fifteen thousand years it's now believed dogs have lived beside humans, they've evolved. So, too, have humans. We've shifted from that Paleolithic, hunter-gatherer diet to one that reflects an agrarian condition.

In the case of dogs, we've found a few genes that reflect this adaptation. So, too, have we found genes that indicate a neurologic adaptation to cohabitation with humans. But just a few genes' difference is regarded as an adaptive shift to a condition. These alone can't possibly alter the entire digestive evolution of a species.

Indeed, dogs still have plenty of traits that are 100 percent carnivorous:

- Dogs' teeth are adapted to a carnivorous diet (for tearing muscle and crunching bone to extract marrow).
- Many of their innate behaviors are carnivorous in nature. Consider digging, for example. Like wolves, dogs dig to hide parts of meals for future ingestion.
- Dogs, like many large mammalian carnivores, are metabolically able to survive for long periods of time between meals.
- Dogs have a lot of flexibility in metabolic pathways to help make up for a feast-or-famine lifestyle and a wide range of possible prey.

The result of these findings, argues Dr. Hendriks, is that the dog is undeniably a true carnivore. The dog just happens to have an adaptive metabolism as a result of living with humans for millennia. That's why the dog is perfectly capable of eating a grain-based diet, as most commercially fed dogs do.

WHY IT'S IMPORTANT

But the issue is this: Just because dogs are a domesticated species with an adaptive metabolism that allows them to cope with life as an omnivore doesn't mean they're not true carnivores.

Accepting "this explanation derived from feeding ecology," offered Dr. Hendriks in his final statement, "helps to improve our understanding of the dog's digestive physiology and metabolism and may contribute to the ongoing optimization of foods for our pet dogs."

But that doesn't necessarily mean we'll be moving away from a grain-based diet for most dogs anytime soon — in fact, most will probably never experience the potential benefit of what may be a more biologically appropriate diet. There are simply too many issues related to sourcing meat proteins to make that feasible.

Nonetheless, knowing what a dog's ideal diet looks like is the foundation of any nutrition program. But whether creating a diet based on the ideal is doable or not is another issue altogether.