

Advancing Science for Pet Health

# ΗΟΤ ΤΟΡΙΟ

By-products (AAFCO)



#### In focus

By-products are a nutritious ingredient, but pet owners may perceive that pet foods containing by-products are low-quality.

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#### What are by-products?

By-products are defined as all the non-muscle, edible parts of an animal. According to The Association of American Feed Control Officials (AAFCO), hide, horns, teeth, hoofs, claws, beaks, intestinal contents and feathers from poultry are not considered by-products.<sup>1</sup> By-products used in pet food include organ meat such as liver, spleen, and kidney.



By-products are integrated into pet food either whole or as dried meal and provide a quality, digestible source of protein, vitamins, minerals and healthy fats.

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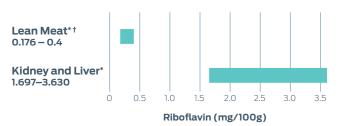
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## Are by-products lower quality than meat or poultry?

By-products can provide highly digestible, good quality protein<sup>2</sup> and other nutrients, contributing to a high quality pet food.

By-products often provide more essential nutrients than muscle meat.<sup>3</sup> Kidney and liver, for example, can contain greater than 5 to 10 times more riboflavin (vitamin B2) than lean meat, while also providing a good source of other B-vitamins, vitamins A and C and several essential minerals. Many organ meats also contain more healthy fats (e.g, Omega-3 fatty acids) when compared to muscle meat.<sup>4</sup>

#### Content of riboflavin (vitamin B2) in lean muscle meat vs. kidney and liver by-products of chicken, beef, pork or lamb.<sup>5,6</sup>



\* Chicken, beef, pork or lamb

† Based on common cuts of roasted meat

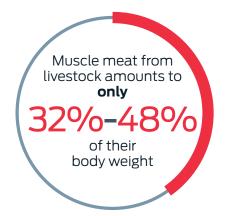
Protein from by-product meals can be as digestible as food made with fresh meats or poultry,<sup>2</sup> but not all by-product meals are equal in quality.<sup>5,7</sup> Some manufacturing processes can impact digestibility and protein quality, with higher temperatures causing damage and reduced digestibility.<sup>5,8,9</sup> Therefore, it is important that manufacturers of quality pet foods use by-products and meals from suppliers with stringent quality control standards and understand how to properly cook products with by-products.

### Would a wild dog or cat eat by-products?

Wolves and other wild and feral animals kill and eat prey. When they do, they do not select just the prime rib or the breast meat. Instead, they consume nearly the whole animal. When wolves kill their prey, the first things usually consumed are the abdominal organs or "by-products".<sup>10</sup> Afterwards, they eat what remains leaving little behind.

### Why shouldn't pet foods just be made with meat?

In addition to by-products being highly nutritious, there is also an environmental benefit from using them in pet food.<sup>11</sup> Muscle meat from livestock amounts to only 32% to 48% of their body weight; much of the remainder is considered by-products,<sup>4</sup> which are environmentally costly to dispose of. Therefore, it is essential for sustainability reasons that by-products be used for their best and most appropriate uses, whether for consumption by people, pets and livestock or for industrial uses, and not wasted.



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