



As the demand for high-quality, super-premium food grows, spectrophotometric pet food analysis is becoming more important than ever before.

Image Source: Pexels user Michał Kulesza

In my dog's ten years with me, she has enjoyed all manner of gourmet pet foods. There was our grain-free period, followed by organic local kibble. Then came the dehydrated pre-mix and, ultimately, the premade raw food. I will never know if this food is actually healthier for her than traditional options, but I believe it enough to make a special trip to the gourmet dog grocer once every two weeks to refill my freezer, and as I see her enter her senior years with clear eyes, clean teeth, shiny coat, and boundless energy, I can't help but think her unconventional diet has had something to do with it.

I am not alone in my search for better pet foods. Increasing interest in the well-being of our animal companions has spurred the emergence of specialized natural, organic, and gourmet pet food products whose retail sales total in the hundreds of millions. According to market research company Euromonitor International, "Retail sales of dog and cat food exceeded \$19 billion in 2011," with premium and super-premium products capturing an ever-growing proportion of the market.¹ In the past year alone, sales of raw frozen pet food increased 32% from \$52 million to \$69 million and sales of raw freeze-dried dog and cat food rose by an astounding 64%, from \$25 million to \$40 million.² "People are willing to spend anything on their pets," says Dr. Marion Nestle, professor of nutrition, food studies, and public health at New York University. "The pet food industry is considered to be recession-proof."³ Tom Niemann, owner of Fromm Family Foods, agrees. "They might cut back on a new car or taking a trip around the world, but they won't skimp on their pets."

Along with growing interest and a willingness to spend, however, comes increased selectivity. The premium and super-premium pet food markets rest on the desire for a superior product and pet food manufacturers must take great care to deliver. Not only does this require thoughtful recipe design that ensures dietary balance, it also requires creating consistent, safe, and visually appealing products that fortify brand image without resorting to controversial ingredients like [artificial coloring agents](#).⁴ Spectrophotometric pet food analysis allows for precise color monitoring of foods during the research and development phase to establish a stable color standard for each food

product. Continuous monitoring of foods throughout the production process ensures that products maintain visual consistency and conform to color parameters before being released into the marketplace.



While cats may not care what color their food is, it can be an important factor in aesthetic appeal as well as safety.

Image Source: Pexels user Fabricio Trujillo

The Importance of Pet Food Color

Given their limited color vision, it is unlikely that cats and dogs have color preferences when it comes to food. Cats and dogs, however, don't buy pet food; humans do, and [we depend heavily on color information](#) to make consumer choices. While traditional pet foods have often turned to artificial coloring to attract consumers, growing concerns about the health impact of these ingredients have made them virtually taboo within the premium and super-premium pet food market. Instead, this new generation of pet food relies solely on its natural ingredients to create visual appeal; in fact, natural ingredients often *are* the visual appeal. "The dogs love [their food], and I believe it helps with their health and coat, but I admit that it's partly based on what looks good to me," says Joe Davidson, a San Francisco-based financial advisor who has been feeding his labs super-premium canned food for years. "You can see green peas and pieces of potato along with the chunks of meat. It's amazingly like real people food."

However, color isn't just about pleasing aesthetics; unexpected color variations in pet food can be an important visual signal that something is amiss, including improper formulation, improper storage, or contamination. In fact, off color is considered to be such a strong indicator of a potential hazard that it is one of the primary categories used by the FDA to classify pet food complaints.⁵ While detecting unwanted color changes is particularly critical in frozen raw pet foods, which are [more vulnerable to spoilage and certain types of contamination](#) than cooked products, monitoring color can be a vital safety mechanism in the manufacturing of all pet food products. At a time when the public is increasingly concerned about pet food safety as the result of numerous product recalls and contaminated products causing the death of hundreds of pets, it is imperative to use every available resource to monitor quality and identify potential safety hazards.⁶ This may be

especially important for small manufacturers of premium and super-premium pet foods who do not yet have the resources to weather the economic impact of a recall.

<https://youtu.be/OZrRdrasXM>

Spectrophotometric Pet Food Analysis

Instrumental color measurement is a simple but essential component of quality control protocols to not only optimize the visual appeal of pet food, but preserve health and safety. Spectrophotometers are designed to produce highly accurate data that provide an objective basis for color determination and comparison. By eliminating subjective visual assessment and translating spectral data into L*a*b* values, spectrophotometers offer extraordinary insight into the color composition of all sample types and can detect even the slightest variation within and between samples.

HunterLab's innovative range of non-contact [portable, benchtop, and in-line spectrophotometers](#) includes [integrated height measurement](#) capabilities to allow for non-destructive analysis of even heavily textured products, including kibble, pates, stews, dehydrated and frozen raw foods, and dehydrated powders, with little or no sample prep. By employing spectrophotometric instrumentation in your pet food analysis, you are able to precisely capture the color information you need to create a color standard during the research and development process. Once a product is in production, continuous color monitoring during manufacturing instantly alerts operators if a product deviates from the established color standard, allowing you to easily contain the defective product, prevent the release of substandard products, and begin isolating the cause of the defect. The extraordinary reliability of spectrophotometric technology means that you can be assured of the highest level of color quality analysis to consistently create safe and appealing products.

HunterLab Innovation

At HunterLab, our commitment to technological excellence has helped our customers analyze, invent, and innovate for over 60 years. Today, we offer a comprehensive array of spectrophotometric instruments ideally suited for pet food analysis to help traditional and gourmet manufacturers alike gain greater insight into their products and implement exacting quality control protocols. [Contact us](#) to learn more about our renowned spectrophotometers, customizable software packages, and world-class customer support services.

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2. "Raw Pet Food Sales Are Booming, But Are the Products Safe?" August 6, 2015,
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4. "Pet Food: The Good, the Bad, and the Healthy," <http://www.petsafe.net/learn/pet-food-the-good-the-bad-and-the-healthy>

5. "How to Report a Pet Food Complaint," November 20, 2015, <https://www.fda.gov/AnimalVeterinary/SafetyHealth/ReportaProblem/ucm182403.htm>

6. "Pet Food Deaths Estimated," November 30, 2007, <http://nyti.ms/23z6Xb1>