



Therapeutic pet food is a critical part of treatment and prevention of disease for millions of cats and dogs around the world

Image Source: Pexels user Krysten Merriman

There are few more helpless feelings than watching a pet struggle with illness. Thanks to advances in veterinary medicine, however, there are now more diagnostic and treatment options available than ever before to help our furry friends heal, improving both quality of life and lifespan beyond what could be expected even a few years ago. One particularly vital area of growth is therapeutic pet food, also known as prescription diets, which may be used either short or long-term to support specific health goals by either augmenting other forms of treatment or acting as a standalone intervention.

“Most medical conditions benefit from the right nutritional support,” says Grace Long, director of veterinary technical marketing at Nestle Purina PetCare. “Therapeutic diets complement other therapies, provide excellent nutrition and at the same time address the special nutritional needs of the pet.”<sup>1</sup> Indeed, as our understanding of the role nutrition has in both the prevention and treatment of illnesses, pet food companies are increasingly devoting resources toward the development of therapeutic diets, which now make up an ever-growing proportion of the total pet food market in both established and emerging markets.<sup>2</sup>

The integration of therapeutic foods is now a standard part of treatment for a broad spectrum of health conditions in both cats and dogs, playing a critical role in the long-term management of kidney and urinary tract conditions, diabetes, and obesity as well as temporary critical care for pets recovering from serious illness or surgery.

The therapeutic use of these foods places a special obligation on manufacturers to ensure quality, efficacy, and safety. While healthy animals may tolerate a range of dietary configurations, animals with health challenges often have unique nutritional requirements with little tolerance for variation; in fact, tightly controlled ingredients and nutrient proportions are the hallmark of these diets. Spectrophotometric analysis provides a rapid, simple, and economical nutritional assessment method and is an essential part of comprehensive quality control protocols.



Spectrophotometric analysis allows pet food manufacturers to gain deeper insight into the nutritional content of their products.

Image Source: [LabradorTrainingHQ.com](https://www.labradortraininghq.com)

#### Nutritional Analysis of Therapeutic Pet Food

Spectrophotometers are remarkable and versatile instruments capable of providing us with extraordinary insight into food products. Today, [these instruments are invaluable within the pet food industry](#), helping manufacturers create and produce appealing visually appealing products and detect undesirable color variations that may indicate flawed processing or compromised safety. However, the power of spectrophotometers goes beyond the look of a product; they also give you the ability to perform detailed nutritional analysis, ensuring that therapeutic pet foods adhere to the strict nutritional requirements mandated by various health conditions.

The primary measurable components include:

- **Protein:** Protein content is one of the most significant variables in therapeutic pet foods and protein levels must be carefully modulated according to the specific illness being treated. For example, while a high-protein diet is ideal for cats with diabetes, high protein levels can be detrimental to cats with kidney disease and cause renal overload. [Spectrophotometric protein quantification](#) can rapidly determine the concentration of protein in a food to ensure that the levels are appropriate for its intended use.<sup>3</sup>
- **Carbohydrate:** A number of veterinary health conditions can be directly affected by carbohydrate content and proportion, particularly in cats. Spectrophotometric determination of carbohydrate allows you to precisely determine whether a food meets your requirements using a variety of methodologies.<sup>4</sup>
- **Fat:** High fat content is necessary for healing, growth, and proper organ function in many pets, particularly young, nursing, and underweight animals. But while high fat content can be a lifeline for some, others require a more moderate approach, as excessive fat can cause or exacerbate certain health conditions. Spectrophotometry can be employed to quantify fat content as well as [identification of specific fat types](#).

Spectrophotometers can also be used to [assess a wide range of other ingredients](#), including iodine, phosphorus, calcium, and magnesium, to ensure proper food formulation and therapeutic value.



Using spectral analysis to confirm determine the nutritional make-up of therapeutic pet foods ensures that each product is correctly formulated to support optimal health.

Image Source: Flickr user Isabelle Blanchemain

#### HunterLab Quality

HunterLab has been a pioneer in the field of spectrophotometry for over 60 years. Our comprehensive range of portable, benchtop, and in-line instruments has been developed with the diverse needs of our customers in mind and today we offer the most sophisticated spectrophotometric tools available to the pet food industry. With the insight gained from spectral analysis, you can gain unprecedented insight into your formulations, implement meaningful quality control protocols for existing products, and evaluate new formulas with the highest level of accuracy. [Contact us](#) to learn more about our cutting-edge technologies and world-class customer support services and let us help you find the perfect spectrophotometer for your needs.

1. "Therapeutic Diets: Improving Pets' Quality of Life," March 6, 2012, <http://www.veterinarypracticenews.com/March-2012/Therapeutic-Diets-Improving-Pets-Quality-Of-Life/>
2. "Therapeutic Pet Food Prospects," March 13, 2014, <http://blog.euromonitor.com/2014/03/therapeutic-pet-food-prospects.html>
3. "Quantification of Protein Concentration Using UV Absorbance and Coomassie Dyes," 2014, <http://www.ncbi.nlm.nih.gov/pubmed/24423263>

4. "Analysis of Carbohydrates,"

<http://people.umass.edu/~mcclemen/581Carbohydrates.html>