

# **PANDEAN Principles Ensure a Healthy & Safe Diet for Dogs**

## **Dr Edward Kane PhD**

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## **Introduction to Pandean Pet Foods**

PAN DEAN structured diets ensure a safe and healthy diet for dogs. Although fresh ingredients and deli-meat appeal is an entirely new concept for pets and pet owners, the research and testing of this formula have been in development for many years. PAN DEAN diets are complete and balanced for all stages of the animal's life (AAFCO Nutrient Profiles), providing excellent nutritional adequacy as well as being highly digestible and extremely palatable. PAN DEAN connotes the Pasteurized, Nutrient Dense, and All-Natural aspects of the product category. All products designated as PAN DEAN have been carefully processed in quality-controlled manufacturing plants with strict adherence to HACCP standards and Good Manufacturing Practices (GMP), with proper sanitation and laboratory analytical monitoring to ensure the highest levels of nutrition and safety.

## **The PANDEAN Principles**

**Pasteurization** equals safe processing. Pasteurization is achieved by heating the ingredients to a temperature for a time that is sufficient to reduce the vegetative pathogenic microorganism contamination in the pet food to a safe level. The ingredients are mixed, emulsified, and pasteurized with a core temperature above 79C, as they are packaged. The product is then quickly chilled.

The pasteurization core temperature far exceeds the industry standard necessary to kill harmful bacteria. By this high-temp process, the refrigerated shelf life of the product is extended. For human food,<sup>5,s</sup> the target organism is Salmonella spp. Pasteurization is designed to reduce the Salmonella population by 10<sup>5</sup>. The 10<sup>5</sup> reduction for Salmonella spp. is based on the principle that there are, at most, about 10<sup>3</sup> Salmonella spp. per gram of beef normally present in the retail marketplace. Pasteurization of food reduces this hypothetical population to a safe level of 1 vegetative cell of Salmonella in 100 grams of sample.<sup>5</sup> This level of pasteurization also controls other bacteria, such as Listeria monocytogenes. Naturally contaminating spores of some bacteria (i.e. Clostridium perfringens) survive pasteurization and are present in food, though appropriate refrigerated temperatures prevents their outgrowth. If pasteurized-chilled foods are kept at less than 38F, there is absolutely no hazard, even temperatures up to 40F or slightly above for several days are safe.

Therefore, fresh-chilled pasteurized meat- based foods are safe and healthy for the pet and the pet owner.<sup>7</sup> Note the levels found in a typical sample of Chicken, Vegetables and Pasta. The data shows that Salmonella and Listeria were not detected, the Aerobic Colony Count was 170 CFU/g (non- significant), and the Coliforms were < 3 MPN/g (Figure 1).

**Nutrient Density** is another key element to the PANDEAN concept. Through careful formulation and laboratory analysis, it is evident that this diet provides all essential nutrients, including energy, protein (all essential amino acids), vitamins and minerals to keep dogs healthy, active and happy. Also included are enough fat- soluble vitamins (A, D, E, & K) and B vitamins, as well as good sources of calcium, phosphorus (for strong bones and teeth), trace minerals - especially iron and copper which are essential for healthy red blood cells (hemoglobin) and zinc for proper growth and healthy skin.

**All Natural ingredients** are a hallmark of the PANDEAN principles and another departure from traditional pet food production. Laboratory testing has shown that this diet contains no preservatives or additives such as artificial coloring; no glutens, sugars, digestive accelerants or soy. A careful formulation of fresh "whole" meat (not bone meal or by-product), internal organs, vegetables and the required level of fiber, vitamins and minerals form the base ingredients, consisting of 65% moisture, 10.7% protein, 10% fat and 0.5% fiber; providing 1.6 kcalME/g (as fed). Equates to 30.5% protein, 28.5% fat, 1.4% fiber and 4.57 kcalME/g on a dry matter basis.

In all, the PANDEAN is an expertly conceived diet concept, providing the dog with virtually everything it will need for a healthy, active life - enabling the owner to safely and confidently feed their animal companion, knowing they are providing the best available diet on the market.

### **Spoilage Microorganisms**

The PANDEAN process kills both harmful pathogenic bacteria, and limits the production of the spoilage microorganisms, such as the psychotropic bacteria (usually

Gram Negative bacteria that grow at cold temperatures, e.g. *Pseudomonas*, *Leuconostoc*, *Brochothrix thermosphacta*), *Lactobacillus*, yeasts and molds (*C/adosporidium*, *Sporotrichum*, *Penicillium*), which may produce adverse changes such as off-flavor, off-color, and off-odors. The quick chill of the process helps ensure reduced levels of these microbes. Usually spoilage microorganisms survive pasteurization, because they are in higher quantity on raw meats, and many of them are resistant to heat inactivation than vegetative pathogenic microorganisms. Temperature of the cooking process will determine how long it takes to create spoilage affects. Properly processed products (that produce the 10-5 *Salmonella* reduction<sup>6</sup>) are considered safe and of acceptable quality for two weeks to 6 months, depending on the temperature of the heating process, level of spoilage microorganisms, and refrigeration storage temperatures.

PANDEAN pet food in its sealed package must be kept refrigerated, and may be stored in the refrigerator for up to - 16 weeks. The pet owner should comply with the 'best before date' on the package. Once opened it can continue to be safely stored in the refrigerator for up to 4 days. Unlike raw meat pet foods, Pandean pet food can be handled with safety just like human foods, such as pasteurized meats and dairy products.

### **Conclusion - You can confidently recommend PANDEAN Diets to Your Clients**

Since PANDEAN pet foods are vigilantly pasteurized, you can confidently recommend them to your clients. They are all natural, nutritious, and nutrient-dense, with an appeal of fresh deli meat from the deli-case and proven palatability to ensure the dogs will eat what is good for them. Kept refrigerated, they are healthy and safe as well for both the pet and it's owner.

## References

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### Figure 1. Microbial Analysis of Pandean Pet EOQQ7

Chicken, Vegetable, Pasta Formula 1

Aerobic Colony Count (ACC)	170 CFU/g E
Coliform	< 3 MPN
<i>Salmonella</i>	Not Detected
<i>Listeria monocytogenes</i>	Not Detected

<sup>1</sup>data from two samples

Analysis performed by Silliker Canada (Tests Accredited by the Standards Council of Canada)

### Methodology References

ACC 1001	HPB Method MFHPB-18
Coliform 1274	HPB Method MFHPB-19
Salmonella 1007	HPB Method MFHPB-20
Listeria m. 3379	HPB Method MFHPB-7

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