

Sustainably developing great-tasting pet foods

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Samantha Combe and Melissa Vanchina from Hill's Pet Nutrition discuss the environmental impact of pet food, with a specific focus on sustainable alternatives to food palatants

The pet population has been steadily growing, resulting in a staggering estimate of more than one billion pets worldwide. Changing attitudes towards pets and their inclusion as part of the family have influenced a more conscious approach to pet care and pet food purchase decisions. ⁽¹⁾

Choosing a pet food to purchase is one of the most important decisions a pet owner makes

The pet food category is the largest segment within the overall pet industry and has exploded in tandem with the increased number of dogs and cats. Projections indicate that the market will attain \$135 billion by 2030.⁽²⁾ Some important factors pet owners consider when purchasing pet foods include: ^(3,4)

- **Nutrition:**
Pet owners rank health and nutrition as a top consideration;
- **Quality:**
Pet owners trust brands they believe offer consistent quality;
- **Ingredients:**
Transparent ingredient labels help pet owners make informed choices, and preferences often mirror those seen in human food;
- **Price:**
Price sensitivity varies, and pet owners resist “trading down” to cheaper foods if they value the benefits of their current food; and
- **Recommendations:**
Pet owners trust their veterinarian and veterinarian healthcare team; however, the Internet is a growing source of information, with pet owners increasingly conducting their own research.

Additionally, pet owners want their pets to be happy while also keeping an eye on the greater impact of their choice.

Taste is a top driver of purchase intent for pet owners

Today's pet owners believe that it's important to provide food that delivers more than just optimal nutrition but also provides a taste that their pet genuinely enjoys. Studies highlight that individuals who place more significance on their relationship with their pets tend to prioritize taste when selecting foods. ⁽⁵⁾

The overall taste, or palatability, of a food is determined by the sensory characteristics that make food pleasing and encompasses aspects such as smell, flavor, and texture. ⁽⁶⁾ Key product attributes demonstrated through scientific study to influence taste include ingredients, recipe composition (macro and micronutrient levels), aesthetics (texture, size, and shape), and production processes.

A holistic and intentional approach to product design ensures that all attributes synergistically work together to yield desired characteristics in pet food, being both nutritional and enjoyable for dogs and cats.

Sustainability is becoming increasingly important to pet owners

An additional factor gaining importance as pet owners become more environmentally conscious is the sustainability or environmental impact of pet food. Research has shown that the diets of dogs and cats are responsible for 25-30% of the environmental impact of total US feed animal production. ⁽⁷⁾ More than half of the dog (52%) and cat (54%) pet owners in the US say they are willing to pay more for pet products that are eco-friendly. ⁽⁸⁾

Palatants play a vital role in elevating the flavor and overall taste of a pet food

Palatants, also known as digestes or flavor enhancers, are specialty ingredients used in all commercially manufactured pet foods to enhance aroma and taste and make the food more enticing to pets. Palatant manufacturing involves hydrolyzing a protein source to generate smaller taste-active compounds, such as amino acids and peptides, and blending those with other components to build the desired flavor profiles. ⁽⁹⁾

The production of conventional animal protein-based palatants is resource-intensive, raises greenhouse gas emissions and yields significant processing waste. ⁽¹⁰⁾ With typical use levels between 0.5% to 3.0%, ⁽¹¹⁾ palatants contribute significantly to the carbon footprint of pet foods. Manufacturers face the challenge of sourcing sustainable alternatives without compromising taste.

Promising solutions encompass traditional alternative protein sources such as animal by-products, e.g., viscera, which are discarded from the human food chain because they are unappealing to humans ⁽¹²⁾, and vegetable-derived proteins. ⁽¹¹⁾ Insects as a novel protein source have been gaining popularity in recent years and offer yet another potential alternative.

Insect-based palatants mitigate the ecological effects of their traditional animal-based counterparts

Palatants made from insects may have a lower water and carbon footprint than those made from traditional sources. Benefits are due to:

- Reduced land usage to farm insects;
- Insects can be fed with waste products (fruit and vegetable by-products);

- Insects emit lower levels of greenhouse gasses and ammonia; and;
- Insect feed conversion rates are more efficient. ⁽¹³⁾

More research is needed to fully evaluate the use of insect-based palatants

Studies have shown pet owners generally hold a favorable view of insect-containing pet foods, with one study involving 50 pet owners showing over 90% expressed a positive opinion regarding insect-based foods. ⁽¹⁴⁾ Research has also demonstrated the acceptance of insect-based pet foods by both dogs and cats, revealing their strong appeal in terms of both taste and aroma. ⁽¹³⁾ However, more research specifically exploring insect-based palatants in pet foods is needed to fully understand their impact.

Incorporating sustainable raw materials into pet food is essential to protecting the environment and ensuring the availability of resources for future generations of people and their pets. Insect-based palatants may offer one promising solution to reduce the environmental impact of pet food production without compromising taste.

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