



Fruit Adds “A-Peel” to Pet Food Formulations

Dietary Benefits and Label Friendly Declaration

ARTICLE SUMMARY: Antioxidants, fiber and clean label implications — these and a host of other benefits make fruit powders, concentrates and purées attractive ingredients for pet food or treat formulations. In addition, consumers’ top concerns when purchasing pet food include a desire for foods processed in the U.S. and cleaner, simpler product profiles. Tree Top, Inc. offers pet food formulators a full portfolio of wholesome, high-quality fruit ingredients processed in the U.S., in a wide variety of forms, to create specialized pet food offerings.

Fruits and vegetables cannot only help meet a pet’s dietary needs, but also supply great tag appeal as they score high marks as label friendly ingredients. Front of packaging panel promotion or call-outs about the benefits these ingredients provide will attract the attention of the most caring pet “parent.”

In the U.S. alone, recent figures show consumers spent \$9.5 billion on dog food and \$4.9 billion on cat food annually. Pet treats account for the most rapidly growing segment within that category with pet owners spending increasing amounts on treats for both dogs and cats.¹ In fact, Packaged Facts online consumer survey data show that 87% of U.S. dog owners and 68% of cat owners purchase one or more types of treats/chews, illustrating the popularity of these products among pet owners.² See fig. 1

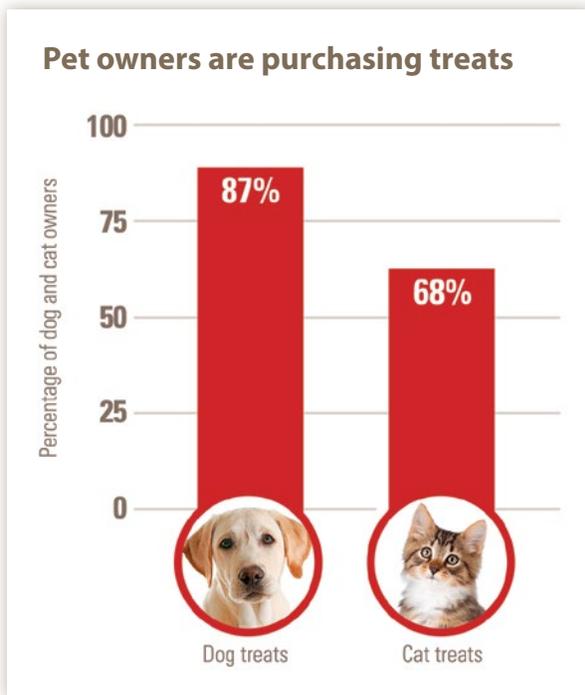


fig. 1

Their popularity, however, comes with increased demand for higher quality ingredients and nutritional benefits for companion animals, greater manufacturer transparency and, correspondingly, greater label scrutiny.

Indulgent pet owners interested in improving and protecting their pet's quality of life seek the same characteristics from the ingredients used in pet foods as they do from the ingredients included in their own food. This creates opportunities for formulators and pet food manufacturers to capture market share with innovative products and unique ingredients, such as fruit concentrates, powders and purées.

Humanization Implications

As pet owners continue to treat their companion animals as family members, they transfer their own personal "food philosophy" to the pet food aisle. "Fruit fits into any food philosophy consumers might currently hold," said George Fahey, Ph.D., Professor Emeritus, Department of Animal Sciences, University of Illinois, Urbana.³

"Whether that philosophy is flexitarian, vegan, gluten free or GMO free. In addition, there are no fruit allergies of which we are aware – fruit fits within many consumer trends."

Today's consumer seeks out more flavor, added nutritional benefits and higher ingredient quality. They also demand manufacturing standards and ingredient quality equal to human food standards, according to new research from Mintel.³

Free From

As the free-from movement meets the pet food aisle, American pet owners are just as concerned with what *isn't* in their pet's food as what *is*. Mintel's Global New Products Database (GNPD) shows that among consumers in the U.S. who prefer to purchase food products with "free from" claims, 84 percent purchase because they are looking for more natural or less processed food.

The list of components that fit within "free-from" demands is long but, in general, it means no added sugar, chemicals, artificial preservatives or ingredients known to be highly allergenic to pets.

And among other top purchase considerations for pet owners, they want products made in the U.S., and those that are more natural (36 and 32 percent,

respectively).⁴ This creates an opportunity to include fruit, considered a naturally wholesome ingredient that fits within the free-from philosophy and adds label and functional benefits.

Which Fruit Tops the List?

The GNPD shows that in a recent year in the pet food category, more than 750 new pet foods introduced included apples, a huge spike compared to former years. Cranberry was close behind with 350 new products, while 250 included blueberry.

See fig. 2



fig. 2

Fruit ingredients offer the opportunity to tap into their nutraceutical or phytonutrient qualities, such as antioxidants and vitamins. Fruit can add fiber, aid with texture, add color, help control moisture and act as part of special formulations designed to address specific owner concerns, such as weight management.

Fruit for Fitness

Pet owners do worry that the food they buy might make their pet obese. In addition, 55 percent of all pet owners agree they worry about filler

ingredients in pet food⁴ so they are searching for healthier alternatives.

According to Dr. Fahey, “Many people don’t eat healthy themselves, but want their pets to do so.” Fruit ingredients contain no fat and are typically lower in calories than many other ingredients. Adding fruit to a pet treat could have a positive impact on weight management, since people can sometimes overindulge a favorite pet.

Fahey said, “A treat doesn’t have to meet the same nutritional specifications as a complete food and the fruit treat could be given once or twice a day. The formulator could add a lot more fruit for its potential phytonutrient content than they could add within kibble, or use the fruit treat for pets at certain life stages such as aging animals, and play off of the fruits’ antioxidant content.”

Treat Category Ripe for Innovation

Pet treats can be irreplaceable tools for positive reinforcement to behavior-train a dog, but a large percentage of people give treats to create an emotional bond with their pet. And recent data shows retail sales of treats reached \$5.4 billion⁵ with specialty foods and treats continuing to outperform other market segments.

Owners are projecting their ingredient expectations onto pet food products, moving beyond the desire for high-quality ingredients to further “humanize” pet foods and treats.³ In other words, pet owners seek more natural formulations that address their concerns related to preservatives, GMO ingredients and the like. In addition they are looking for ingredients that can help address health concerns.

Ideally, according to Dr. Fahey, treats should not make up more than 10 to 15 percent of a pet’s daily food intake. This means that treats should be lower in calories and beneficial for the pet, which makes ingredient selection a primary concern.

Free Radicals Matter

According to Packaged Facts, 39 percent of dog

owners now have dogs aged seven years or older.⁶ These animals' owners might look for products that tie into health and weight control, in addition to antioxidant content.

Consumers know that antioxidants from fruits and vegetables provide positive benefits for their own health and they are looking for these same benefits for their pets. The most common antioxidants used in dog food, for example, include vitamin E, vitamin C, citric acid and rosemary. Vitamin C is commonly found in cranberries, blueberries, apples and some other fruits.

Powerful antioxidants contained in these fruits can help the body, human or animal, fight free radicals. Free radicals are highly reactive, oxygen-containing molecules that can damage cell membranes and enzymes, which makes the nervous and immune system especially vulnerable. Free radicals are considered factors in disease progression and premature aging.

The right amount of antioxidants in a pet food or treat can help make a difference. Antioxidants within the formula work together to support overall health and provide for the entire body.⁷

Ingredient Synergies

This concept of ingredients working together is not new within the pet food category, which is built upon the concept of synergy. Unlike human nutrition, where food is separate, kibble for a dog or cat food in whatever form is complete and balanced. Every kibble contains approximately 54 nutrients balanced for the pet's diet, whether formulated for a young dog, an overweight animal or a senior pet.

Fruit can synergize with other nutrients for a balanced pet diet, whether canine or feline.

Fruit for Fiber

While it is true that dogs are more omnivorous and cats primarily carnivorous, each species benefits from the right type and right amount of fiber in the diet.

The ratio of insoluble to soluble fiber varies depending on the type of fruit. Some soluble fibers have been known to exert a positive influence on blood glucose levels. This soluble fiber potentially could be met using fruits.

"Strawberry, raspberry and blueberry purée with seeds is safe for pet consumption for both dogs and cats, and can supply added soluble and insoluble fiber even when included in low levels in formulations," said Doug Webster, Director of Product Development, Tree Top Food Ingredients, Inc. "Fruit fiber aids in gut motility and laxation. The seeds within the purée add fiber while contributing a negligible amount of calories when used in a pet treat format, for example."

Dried apples and fruit powder contain fiber, which can help bind water. When used in the right ratio, according to Doug Webster, this can be an advantageous fiber addition to consider in wet pet food production. Wet food demands greater water content than dry, yet also a firm texture and low water activity. Pet food formulators, constantly on the search for alternative fiber sources could look to fruit ingredients, which are generally recognized as safe (GRAS) by FDA, are nutritionally adequate for inclusion in pet food formulation and possess potential nutraceutical properties.⁸

Whether selecting fruit for functionality, fitness, free radicals or fiber content, the research arm of Tree Top Ingredients can help select the right form and right type of fruit for the desired application. Tree Top is a grower-owned fruit cooperative processing more fruits, in more forms, than any other supplier on earth. It annually processes more than 800 million pounds of fresh fruit into high-quality, safe, fruit ingredients that are processed in the United States. Fruit hits almost every key trigger for pet food owners and fruit ingredients from Tree Top can help create pet food or treats with appealing labels and positive health benefits for our beloved furry companions.

Millennial Pet Parents

Pet food owners, particularly Millennials, are willing to spend extra money on higher-priced pet products and services to ensure they are purchasing high quality goods, food and treats for the betterment of their pets' overall health and well-being.

Packaged Facts issued a report recently, "Millennials as Pet Market Consumers," that shows pet owners in the 18- to 34-year-old age group are much more likely than those in the 35 and over age group to expect to spend more for pet products during the next few years.

As pet owners, they reflect their overall consumer orientation and behavior. They generally are less concerned about brand loyalty and more likely to have tried a new brand of pet food in the last 30 days. They also are much more likely to use raw pet food or pet foods with formulations geared toward enhancing the health of their pets.

Package tags that call attention to special ingredient benefits or properties become increasingly important in a market that has seen a shift towards online purchasing. Amazon now accounts for 10 percent of the pet food and treat market purchases, with these numbers higher among Millennials. Health and wellness concerns tagged on the package front or label makes it more likely to capture the consumer's attention, even when shopping online.

References

¹ <http://www.petfoodindustry.com/articles/5643-global-pet-food-trends-steady-growth-to-continue?v=preview>

² <http://www.packagedfacts.com/article/2015-09/More-%C2%BE-American-dog-and-cat-owners-purchase-pet-treats>

³ <http://www.nielsen.com/us/en/insights/reports/2016/the-humanization-of-pet-food.html>

⁴ <http://www.mintel.com/press-centre/food-and-drink/one-quarter-of-us-pet-owners-worry-pet-food-is-making-their-pet-obese>

⁵ <http://www.prnewswire.com/news-releases/packaged-facts-pet-treat-market-grows-6-exceeds-5-billion-300114679.html>

Dried Apples

Dried apples are prepared from commercially grown fruit which has been washed, peeled and cored, sorted, trimmed, cut to the desired size and dried to specified moisture range. In the case of a "dry cut," an additional cutting is required following the drying process.

Moisture: Evaporated 16%-26% (depending on style)

Low Moisture: 1.0%-3.5%

Fruit Purées

Fruit Purées are prepared from commercially grown fruit that has been washed and processed through finishing sieves to achieve desired size and texture. For concentrated purée, the fruit is processed through an evaporator to remove additional water.

Available fruit purées include:

• Apple	• Mango
• Apricot	• Peach
• Blackberry	• Pear
• Blueberry	• Raspberry
• Cranberry	• Strawberry

Fruit formats available:

• Dried apples	• Fruit purées
• Dried fruit powders	• Frozen fruit
• Fruit juice concentrates	• Fruit Sensations®

⁶ <http://www.packagedfacts.com/article/2016-01/WhatWe%E2%80%99re-Reading-Packaged-Facts-research-highlights-top-trends-driving-pet>

⁷ http://www.petmd.com/dog/centers/nutrition/evr_multi_importance_of_antioxidants_in_pet_food

⁸ Alternative Dietary Fiber Sources in Companion Animal Nutrition, Godoy, Kerr, Fahey, July 2013, Nutrients <http://www.mdpi.com/2072-6643/5/8/3099>

*George C. Fahey, Jr., Ph.D., is professor emeritus of Animal Sciences at the University of Illinois in Urbana, Illinois and has studied companion animal nutrition throughout his 40-year career at Illinois.

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Call Us.

Our R&D department welcomes any customization challenge and we love working with our clients to create something brand new. We're ready to provide innovative ideas, prototypes, packaging alternatives, and the world's juiciest, tastiest and most delicious fruit products — naturally. Contact Tree Top at (800) 367-6571 ext. 1435 or visit treetoppingredients.com.



TREE TOP, INC. • P.O. Box 248
220 E. Second Ave., Selah, WA 98942
(800) 367-6571 ext. 1435
Jeannie.Swedberg@treetop.com
treetoppingredients.com