PET FOOD

Trends for 2018 and Beyond

Natural - Grain Free - Sustainable - Health Benefits - Ingredient Transparency





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Cooks for Canines

Last night, I prepared simmered chicken breast and roasted sweet potatoes. The whole house smelled wonderful; there's nothing more mouth-watering than the aroma of slow-roasting sweet potato. This feast wasn't for my husband and myself, however, it was for our furry kids. Yes, I am one of *those* pet parents: I augment my dogs' foods. While I do feed both of my guys canned dog food, I also then top it with extras like chicken, turkey, lamb, or salmon, and veggies like carrots, peas, pumpkin, and yes – slow-roasted sweet potatoes.

This gives my mother no shortage of amusing stories to tell her friends and relatives over the phone. In the 30's and 40's, when my mother was growing up, dogs ate table scraps. At least as far as her recollections extend, there was never any "dog food" in the house. You would think then that my approach would not seem quite so... well, crazy to her, wouldn't you? However, she is comparing it to how it was done when *I* was growing up in the 70's and 80's – our family dog ate only the finest Alpo and Gaines-Burgers!

The good news, for my sense of sanity at least, is that I am not alone. It turns out that a significant number of pet parents add meats and veggies that they've prepared to their dog's meals, and it's a growing trend. My mom has even admitted that more and more of her friends are saying, "Oh yes, my son does that too!" when she regales them with the latest story of how we all had salmon tonight, "... even the dogs! She makes it especially for them. If we are lucky, we can have some too!" I am in marketing, it's what I do for a living, so I always want to understand the motivation behind trends in the market. Meal prep times on average have decreased over the years. Today many people spend 15 minutes making dinner and consider it to be a borderline-lengthy process.

I love to cook, though. Not just for the physical process and end-result, but as much for what cooking for someone else *means*, what it conveys beyond scents and tastes and nutrients. Why I make dinner for my two-legged family members as well as, often, making a separate dinner for the four-legged ones, is because for me (here right in the middle of this particular trend!) it's about loving and caring, bonding and connection. Making nourishing food is just one way to show love, one I think they also thoroughly enjoy, and that makes me happy, too.

But there are other reasons that I add these toppings to their foods, and that dovetails with another trend in the industry. One of my furbabies, Fritz, is 14-years-old and has the early stages of congestive heart failure. I want to give him the diet and nutrition that he needs to help promote heart health. Part of that is getting Omega-3 and fish oil into his diet. I do this with daily fish oil supplements, but I also give him salmon a few times a week. Fritz also has a tendency to have stomach issues, and nothing keeps his tummy happier than a combination of probiotics and a few tablespoons of pureed pumpkin. (Yes, pumpkin! Who knew?) Again I am not alone – the desire to customize a pet's diet based on his or her nutritional needs and health concerns is also a very big trend right now.

So let's looks at how some of these trends are shaping the pet food industry – because if nothing else, it lets me feel that, if I *am* crazy, I am not the only one!

From Pre-packed Fast Food to Healthier Homemade

There is a whole spectrum of pet parents and how they prepare the meals for their pets. I have been on just about every point of that scale. Growing up, our family dog ate dry food from a bag and wet food from a can. In the 90's, when I had my own home and got my first dog, Nick, I started out that way too. Nick was a rescue, and yet was a very fussy eater. He'd been a stray for most of his life before we met, and he much-preferred a garbage can to store-bought dog foods. That was when I started down the road of making his food myself. Once or twice a week, I would make a big batch of food for him, using recipes I found on the internet.

I had gone from one end of the spectrum to the other extreme in one fell swoop. Working for a company that makes nutrient premixes made me aware and concerned about a balanced nutrient profile. I was concerned he would not get the nutrients he needed in these "homemade meals". Next step on our journey – compromise, which in our case meant toppings.

Tasty toppings made the store-bought food more appetizing for Nick. We found our happy spot in the middle of the spectrum. (That was what was right for me personally and for my dog at that time, though of course it's not the right spot for everyone or every dog.)

The pet food industry is addressing this too. They realize pet-parents often supplement pets' meals with home cooked meat, pumpkin, or other "table foods". This trend has spurred the creation of various additions, such as mix-ins, toppers, sauces, and nutrient boosts. Pet food makers are addressing this need by offering products that can be combined and thereby personalized by using with other products. The raw and dehydrated pet food segment generally involves some preparation, which therefore opens the door to even further customization by the pet owner.

One example of this is 'Weruva Pumpkin Patch Up!' which is a food supplement for dogs and cats to support digestion. Other companies responding to this "mix-in" or topping trend are Stella and Chewy with their "Meal Mixers", Blue Buffalo's "Wild Cuts Trail Toppers", Fruitables "Broth Bowls" and Instinct's "Raw Boost Mixers".

Condition-specific Foods For Pets

Many Americans look for foods that provide desired health benefits, for example: foods to address high cholesterol, weight management, digestive health, heart health, energy, immunity, and joint or bone health. We look for foods to include in our diet that we believe are beneficial to maintain health or prevent disease, so it's a natural step for pet parents to do something similar for their pets. That's why I include salmon in Fritz's diet to promote heart health and pumpkin for good digestion, because I want what time he has with us to be as long and healthy as possible.

Pet Parents Seeking Preventative Foods

Pet food manufacturers are responding to this trend by creating food targeted to specific nutritional needs or health benefits, and by creating products based on breed, size, weight, activity level, allergies, and health conditions.

Case in point: A company in the UK called SPECIFIC is producing formulas for health conditions such as for weight loss, allergies, digestive problems, diabetes, heart problems, kidney problems, and joint issues. They also have formulations for pregnant dogs and dogs with urinary problems.

Hill's Pet Nutrition also produces foods for weight management, joint health, dental health, and energy under their Science Diet line. Their Prescription Diet line provides foods for digestive issues, kidney issues, urinary issues, liver health, and glucose management.

We also see a lot of interest in a modular approach to customizing a pet's diet. This would allow a pet parent to start with a well-balanced, high quality pet food and add "modular" components based on specific health concerns. Think of them as side dishes or specialty toppings that allow the pet parent to customize their pet's diet based on their individual nutritional needs.

Pet Foods – A Dynamic and Growing Industry

Speaking of "not alone", the pet food market is big. In a new report *Pet Food in the U.S., 13th Edition*, the market research firm Packaged Facts estimates that overall pet food sales reached \$26 billion in 2017. The market is forecast to continue on a respectable growth trajectory annually through 2022. Over 55% of American households have pets. •



Pet Food Trends for 2018 and Beyond

The question on every pet owner's mind seems to be "What's in my pet's food?". Americans have increasingly been scrutinizing food labels when they shop for their families, and their pets are no exception. A healthy diet for pets is a major theme this year, along with a few disruptive distribution innovations. Here are the pet food trends for 2018:

1. Natural

Pet owners are looking for natural, and companies are delivering. Popular natural brands include Blue Buffalo, AvoDerm Natural, and Purina Pro Plan Natural. The movement may have been started by small pet food companies, but large companies are catching on and are either acquiring natural pet food companies or adding a natural product line to their existing brand. Increasingly, Americans don't want artificial-sounding ingredients in their own food or in their pets' food.

2. Clean Label

Clean label can mean different things to different people, but typically encompasses ingredients that are natural and familiar. Clean label can also mean the absence of by-products and heavily processed ingredients. For some, the concept extends to non-GMO and organic ingredients. Nutro differentiates itself by offering non-GMO pet food, and Castor & Pollux is leading the organic pet food market.

3. Ingredient Transparency

The demand for transparency is strong and continues to grow. If a pet food does not appear to have a clean label, such as if it contains additives or preservatives, then the manufacturer should explain why those ingredients were added and how they benefit the product. Even vitamins and minerals can have long, complicated names. But they provide important health benefits and contribute to a higher quality product. Educating pet owners through transparent labeling is key to building trust.

4. Grain-Free

Grain-free product lines are widely available now, even from large pet food companies like Purina and lams. The idea behind this growing market is that the digestive systems of cats and dogs did not evolve to process grains. Grains remain in the digestive tract for too long, which can cause bowel disorders and food allergy reactions.

5. Refrigerated

Freshpet is transforming the market with its refrigerated pet food which is available at supermarkets, pet stores, and even Walmart. It's no surprise that refrigerated pet food is seen as fresher, even though it's been pasteurized.





6. Online Ordering / Home Delivery

E-commerce has made its mark on the pet food industry. Pet owners can order pet food directly from manufacturers like Ollie, BarkChef, and Just Right by Purina and have it delivered to their homes. Often, another advantage of using this service is customized pet nutrition. Pet owners answer a series of questions online about their pets, which determines the optimal pet food formula. Even portion-control packs are available. Pet owners can also choose to order from an online retailer that offers a variety of pet food brands, as well as toys, treats, and pet supplies.

7. Sustainability

"Sustainable" and "ethically-sourced" are examples of sustainability messaging appearing on pet food packaging. Pet owners are asking questions about the ingredients, for example if the chickens were raised under humane conditions and if the fish were sustainably sourced. Pet owners may also want to know if the packaging is recyclable.

8. Health Conditions

Pet food that addresses specific health conditions is also on the rise. There is pet food formulated for joint health, proper digestion, and a healthy coat. Pet food supplements are also available. Look for ingredients like omega-3 fatty acids, glucosamine, and chelated minerals. It's easy to add combinations of healthy ingredients to pet foods by using a custom nutrient premix, with a different nutrient premix for each product. Moreover, using microencapsulated nutrients can prevent ingredient interactions, improve the stability of those nutrients, and also minimize their flavor impact. Experts at Watson Inc are happy to provide custom nutrient premixes and microencapsulation technologies. •

Disclaimer: Use of product and company names does not imply any affiliation with or endorsement by them.

Functional Foods for Perky Pets

Consumers are becoming more and more concerned about their pets' health. As nutritional science emphasizes the importance of functional foods in the human diet, pet foods have also begun to incorporate these health-promoting ingredients.

Functional foods are foods that provide additional health benefits beyond basic nutrition.¹ Functional foods have been promoted to prevent disease and improve overall health. There is a wide variety of functional foods available for humans including oat cereals, yogurts with prebiotic, nutritional beverages, specialty oils, high omega eggs, and whole grain breads.

Consumers often care about their pets' health as much as their own. The pet food aisle has an array of products designed to promote animal health. Functional food ingredients found in pet foods include prebiotics, omega 3 fatty acids, glucosamine, chondroitin, fruits, vegetables, dietary fiber, vitamins, and minerals. Consumers show increased interest in these healthy pet food options.

Prebiotics

Normally, high levels of *Clostridium perfringes* is found in the microbiota of animals. However, *Clostridium perfringes* can produce an enterotoxin that potentially causes infections, diarrhea, and abdominal cramps.² The presence of prebiotics, such as oligofructose and inulin, in an animal's diet decreases levels of the bacteria *Clostridium perfringes.*³ Additionally, oligofructose and inulin increase levels of healthy gut bacteria such as Bifidobacteria.⁴ A healthy gut bacterium helps promote a strong immune system. Consumers can find prebiotic foods for their pets in dog food, cat food, digestive enzymes, and prebiotic supplements.

Omega 3 fatty acids

Omega 3 fatty acids are polyunsaturated fatty acids that have anti-inflammatory effects. DHA and EPA are two omega 3 fatty acids that are essential in the diet. Omega 3 fatty acids are recommended to pets for healthier skin, increased immunity, and prevention of arthritis.⁵

Glucosamine and Chondroitin

Often, pet foods advertise the addition of glucosamine and chondroitin. Glucosamine is an amino sugar that support cartilage and joints. Chondroitin is a glycosaminoglycan that destroys enzymes that damage the bones.⁶ If your pet has joint pain such as osteoarthritis, they might benefit from foods with added glucosamine and chondroitin.

Fruits and Vegetables

Although some pets like cats and dogs are known for being carnivores, fruits and vegetables are still a critical part of their diet. Fruits and vegetables in pet food provides a variety of vitamins and minerals. Additionally, fruits and vegetables give pet food a higher antioxidant and fiber content.⁷ Typical fruits and vegetables found in pet foods include apples, berries, carrots, broccoli, and celery.

Dietary Fiber

Dietary fiber is a functional food ingredient found in the cell walls in plants and grains. Although fiber is not an essential nutrient for pets, there are many benefits. Some benefits include increased satiety, decreased incidence of diabetes, and prevention of constipation.⁸ Dietary fiber is available in dog foods as bran, pectin, rice hulls, and soybean hulls.

Vitamins and Minerals

Vitamins and minerals such as vitamin A, vitamin D, vitamin E, niacin, riboflavin, thiamin, biotin, iron, potassium, and zinc are added to pet foods for health benefits. For example, vitamin A supports growth, reproduction, and eye health. Vitamin E acts as an antioxidant to protect against lipid oxidation. Interestingly, vitamin C is not commonly found in dog foods because unlike humans, dogs can synthesize their own vitamin C. Although pets require only small amounts of vitamins and minerals, these essential nutrients are still important in the diet. Look for the statement "with added vitamins and minerals" on your animal's food to provide them with extra vitamins and minerals.⁹ •

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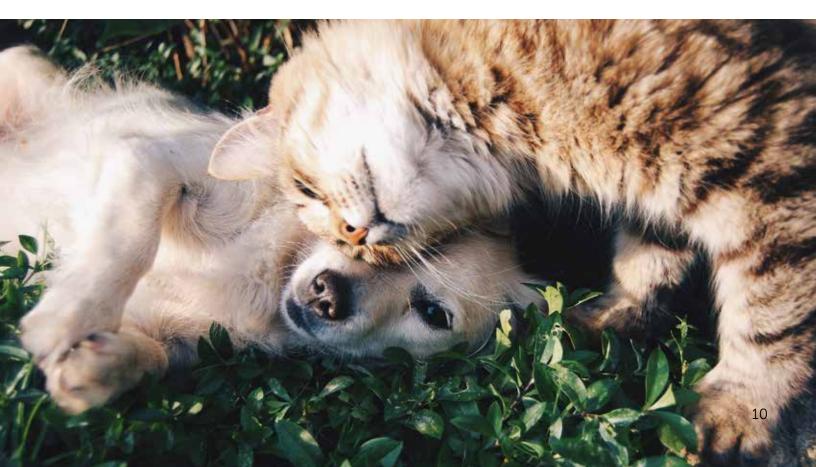
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The Rise of Grain Free and Gluten Free Pet Foods

When it comes to healthy pet foods, what's not included may be as important as what is. The clean label and free-from trends resounding throughout the food industry have undeniably expanded into the pet food industry. Gluten-free is no exception.

And gluten-free may be here to stay. "Our data from both global product launches and consumer surveys show that gluten-free is not going away, but rather found a place in the mainstream," said Kara Nielsen, sales and engagement manager at Innova Market Insights, regarding the assimilation of gluten-free into the food industry.¹ It's no wonder pet owners have gluten-free on their minds, whether they're shopping for themselves or their four-legged family members.

Likewise, the Paleo diet planted the seed for the grain-free movement which has also taken

root in the pet food industry. Even mainstream pet food brands like Purina and lams now offer grainfree product lines.

Going Against the Grain

Just as food manufacturers must pivot to meet the changing demands of consumers, pet food manufacturers must be responsive to the new interests of pet owners. Grain-free and gluten-free may be the main attraction for some pet owners or just a perk to others. Either way, they are selling points that can't be ignored.

However, pet owner demands can sometimes be confusing or even contradictory. Grain-free pet food on the shelf next to pet food made with ancient grains or whole grains? This is why it's important to understand the pet owner's motivations for choosing grain-free or gluten-free.



Why Do Pet Owners Buy Grain-Free and Gluten-Free?

Food Allergies – to prevent food allergies, especially from wheat and corn Gluten-Sensitivity - to prevent or treat skin or digestive issues arising from gluten sensitivity or intolerance, such as dry and itchy coat or diarrhea Starch Digestion - based on the belief that cats and dogs can't digest starch Weight Management and Weight Loss based on the idea that grains or carbohydrates, in general, contribute to obesity <u>Mycotoxins</u> – to avoid feeding their pets mycotoxins, in particular, the aflatoxins that can form on moldy corn Ancestral Diet - to provide a speciesappropriate diet that more closely matches the animal's natural diet in the wild Fillers – based on the perception that grains are used as fillers in pet food and therefore are not "real food" or nutritious

Separating the Wheat from the Chaff

Many of the reasons pet owners seek out grain-free or gluten-free pet food are not sciencebased. For example, beef and milk allergies are more common in dogs than grain allergies, and cats and dogs can digest starch.² Moreover, grains are nutritious and contribute vitamins, minerals, and fiber to the diet.

However, a veterinarian may recommend an elimination diet for a pet with signs of a food allergy or sensitivity, and the plan may include trying a grain-free diet. Furthermore, there is one breed of dog, the Irish Setter breed, that can suffer from gluten-sensitive enteropathy, a genetic disease causing mild diarrhea and weight loss in response to gluten.³

Which Way the Wind Blows

It can be difficult to stay on top of every new trend and to predict their staying power. But it all comes down to people wanting what's best for their pets. This might be grain-free, high-protein, or low-calorie pet food, or pet food made with legumes and vegetables. It could also mean fortification with nutrients such as omega-3 fatty acids, glucosamine, or chelated minerals to meet pets' specific needs. Watson's custom nutrient premixes can add value to pet food products.

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Dogs and Unicorns



Last year, 2017, was the year of the unicorn. We saw unicorn pancakes, unicorn frappuccinos, and so much glitter, everywhere! This trend continues this year as well, with sites such as Instagram and Pinterest bursting with images of glitter in foods and beverages.

We all know that trends move from the food industry into the pet food industry. We have seen it with organic, grain free, gluten free, non-GMO, locally-sourced... the list goes on and on.

The nation is fascinated with glitter in food. Will this the be year that unicorn treats hit the pet food aisle?

Back around 1956 my father, John Watson, created Edible Glitter™ at the new startup company that he called Polymer Films. Today that company is part of Watson Inc. We still make Edible Glitter™ here in our West Haven CT facility, from a clean, simple recipe of food-grade ingredients: Gum Arabic, which is the sap of the Gum Acacia tree, and a food coloring. For the color, we can use any FD&C color, EU colors, or what is called "color additives exempt from certification" These colors are the ones that consumers usually call 'natural colors', since there is no legal food-industry definition of the word "natural." Examples would include black carrot juice, cabbage juice, red radish, the yellow spice turmeric, etc. These are what most people refer to when they say natural colors.

So can these Edible Glitters[™] be used in pet food? The answer is yes, they can, and they are already being used in some commercial pet treats today. The trend is just starting to take off in the pet food industry. In the next few years, expect to see much more Edible Glitter[™] being used in pet foods and treats. ■



Color Additives Used in Animal Food

Watson makes glitters that can be used for pet treats and foods. All approved color additives colors are in 21 CFR 73 or 21 CFR 74.

Mauve - F290075 Beta Carotene Red ("brick red") - F290003 Amethyst C (Cabbage) - F290074 Yellow - Turmeric - F290002 Radish Red, Gum Arabic 8 mesh - F290028 (WT-10529AL) Blue, Gum Arabic, 8 mesh (Spirulina) - F290008

Mauve (Beet Juice)



Turmeric Yellow



Beta Carotene Orange



Radish Red

Amethyst (Red Cabbage)



Spirulina Blue



Watson Products

Our scientists are happy to provide you with high-quality products to meet your next pet food challenge.

- Edible films for low calorie treats and delivery systems
- Custom nutrient premixes
- Chelated minerals
- Microencapsulated nutrients for flavor / odor masking
- Clean label ingredients for baked treats
- Granulations and Drum-to-Hopper blends for pet supplements

Innovative Thinking, Ingredients and Technology for Pets

Pet parents are increasingly seeking better quality food for their furry friends. The pet food market has seen a rise in natural and grain-free products, ingredient transparency, fresh ingredients, and custom foods to combat pets' health conditions. Functional foods designed to enhance the health of pets have become ever more popular.

Watson provides the ingredients for innovation in pet foods, treats, and supplements.

Together with our customers we strive to improve animal health and wellness. We are committed to sharing ideas with our customers and helping them reach their goals.

Watson is one of the highest quality suppliers of products and services geared towards enhancing human health and nutrition around the world. We are a leader in developing quality products and nutritional ingredient systems. Expertise in microencapsulation, agglomeration, micronizing, spray drying, and film technology allow us to develop unique formulations.

Products Include:

- Edible films for low calorie treats and delivery systems
- Custom nutrient premixes
- Chelated minerals
- Microencapsulated nutrients for flavor and odor masking
- Clean label ingredients for baked treats
- Granulations and Drum-to-Hopper blends for pet supplements

Facilities:

- BRC Certified
- In-House Analytical laboratories, Certificate of Analysis with every lot shipped
- In-House Research and development facilities
- Robust quality and allergen programs
- Organic, Non-GMO and Gluten-Free Certifications



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