

A Pet Project

**Supporting Digestive Health
in Companion Animals**





97
MILLION+

Number of U.S. households that own at least one dog or cat according to the American Pet Products Association.

\$70
BILLION+

Amount Americans will spend this year on pet supplies and care.

In fact, during the recent recession, expenditures on pets barely posted a decline.



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ANDY WARHOL'S 15 MINUTES OF FAME THEORY HAS ARRIVED – and it is not just relegated to mere humans. “Grumpy Cat” has millions of fans worldwide and has pulled in quite the income for his family. Denver the guilty dog also has fans, and imitators. Pets inspire laughter and love in humans.

Attitudes of pet owners have changed dramatically over the years; Americans now tend to view and treat their dogs and cats on par with human family members. No longer is a canine the “family dog,” he or she is “family.”

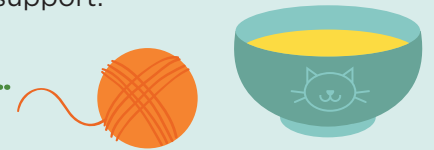
More and more families are choosing wholesome, healthier options for their cats and dogs, because as Americans become more knowledgeable of what’s healthy for them and their human family members, so too are they demanding nutritious and clean options for their pets. And in tandem, preventive healthcare is provided to pets via supplements and natural remedies. In 2014, nearly one-third of cats and dogs were given dietary supplements regularly. And the key growth areas will be in supplements that address age-related health issues in dogs and cats.

KEY MARKET INFLUENCERS

- AGE
- OVERWEIGHT STATUS
- FOOD SENSITIVITIES, INTOLERANCES, ALLERGIES
- DIGESTIVE HEALTH
- JOINT SUPPORT
- SKIN/COAT SUPPORT
- IMMUNE SUPPORT
- CARDIOVASCULAR SUPPORT

Pets that eat a clean, healthy diet are still susceptible to developing health conditions. Aging generates health issues due to slowed in vivo production of biochemicals such as enzymes, production of which tends to decline by a dog's or cat's middle age. Enzymatic insufficiency often results in skin rashes and other skin conditions, allergies, and lowered immunity. Further, as with humans, dogs and cats require a healthy microbiome (population of gut bacteria) to sustain vitality and overall good health.

According to a 2017 report, "Pet Supplements Market in the U.S. 6th Edition," by market research analysts Packaged Facts, key market influencers are the increased awareness of how age and overweight/obese status affects pet health, and awareness of food sensitivities, intolerances and allergies. Packaged Facts data also shows that digestive health and joint support supplements are the most sought-after condition-specific pet supplements; opportunities continue to exist here and in other areas such as skin/coat support, immune support, weight management and cardiovascular support.



FOR BOTH CATS AND DOGS, MANY STUDIES HAVE SHOWN THAT A HEALTHY POPULATION OF GUT BACTERIA IS VITAL TO A HEALTHY FUNCTIONING GASTROINTESTINAL TRACT.

Probiotics

Overall, market figures tally US probiotic supplement sales to be nearly \$4 billion in 2015, a rise of 8 percent from 2014 (Natural Products Insider, Sep. 2016). Consumers en masse are learning about how a healthy flora population (microbiome) can help restore and replenish overall health and well-being for themselves – and it is not a stretch for pet owners to apply this knowledge (correctly) to their dogs and cats, seeking microbiome and other probiotic specific support treats or supplements that are formulated specifically for their pet's unique biology.

Digestive support is a priority for pets as they often have episodes of spontaneous vomiting, regurgitation, flatulence and diarrhea. In fact, for both cats and dogs, many studies have shown that a healthy population of gut bacteria is vital to a healthy functioning gastrointestinal tract. The cause of gastrointestinal dysfunction in dogs is due frequently to rapacious eating habits, including eating things that are not good for them. Cats, meanwhile, can regurgitate their own swallowed hair from

self-cleaning. Cats allowed outdoors can obtain parasites from prey. Both cats and dogs can also experience digestive issues from stress, as well as from medications.

A probiotic supplement formulation for pets can help balance their intestinal microflora and thus provide better resistance to digestive issues.

Species with specific strains known to benefit dogs include *Bacillus coagulans*, as well as *Lactobacillus acidophilus*, which has been shown to improve frequency and quality of stools in dogs with sensitive digestive systems. Probiotics are also of particular importance in cats with any type of digestive problem, including vomiting, hairballs, diarrhea, and constipation.

The key probiotic strains for the pet market include: *Bifidobacterium bifidum*, *Bifidobacterium longum*, *Lactobacillus acidophilus*, *Lactobacillus casei*, *Lactobacillus delbrueckii*, *Lactococcus lactis*, *Lactobacillus plantarum*, *Streptococcus thermophilus*, *Bacillus coagulans* and *Bacillus subtilis* DE111®.

Enzymes

According to Grandview Research Inc., in 2015, the US sales of digestive enzymes reached approximately 341 million. Although conventional pet foods are going more natural and clean label, dogs and cats, especially aging ones, require help digesting their food.

Digestive enzyme supplements are useful for pets with sensitive stomachs or other digestive system upsets, as well as in food transitioning. Enzyme supplements can also benefit pets that are unable to produce enough of their own enzymes, which can become an issue for older pets as they age.

Pets' diets, like humans, tend to contain macronutrients -- fats, carbohydrates, proteins, and fiber. Supplemental digestive enzymes help promote efficient canine and feline digestion, helping break down food and transporting the nutrients throughout the body. Enzymes are categorized by the macronutrients that they disassemble for processing: proteins, fats and carbohydrates. Additionally, there are supplemental enzymes for pets that can be considered for use in supplement formulations for joint health.

Examples:

Acid Protease A protein-digesting enzyme, effective at low pH levels, which is ideal considering pets have relatively lower pH conditions in the GI tract than humans. This enzyme is suitable for cats that have a predominantly carnivorous diet, and is effective for the reduction of hairballs, which are made up of 91% protein.

Bromelain and Papain These protein-digesting enzymes are sourced from pineapples and papaya, and are also effective at low pH levels. Research has shown they degrade proteins associated with inflammatory response, implicated in joint issues, therefore they are effective for both digestive and joint health formulations.

Peptidase Prolyl Exopeptidase (DPPIV) Because pets can also have gluten sensitivities, this assists in the digestion of gluten proteins that may be present in pet foods.

Lipase This fat-digesting enzyme offers more thorough digestion of fats associated with carnivorous, raw diets that many pets eat.

Pancreatin This enzyme has amylase (carbohydrate-digesting), lipase (fat-digesting) and protease (protein-digesting)

activities, and can be used for overall macronutrient digestive support.

Amylase and Glucoamylase These carbohydrate-digesting enzymes support thorough digestion of cereal grains and meals present in many dried pet foods.

Xylanase A carbohydrate-digesting enzyme that breaks down starches that have xylose-containing polymers like those in wheat, oats, and barley. It is particularly effective when combined with other carbohydrases such as cellulase and beta-glucanase.

Beta-glucanase This carbohydrate-digesting enzyme breaks down polysaccharides known as beta D-glucans, which are found in grains such as barley, oats, and wheat.

Cellulase This carbohydrate-digesting enzyme is not endogenously produced by dogs and cats (or humans). It breaks down cellulose (plant fibers) and assists in digestion of many pet foods that contain cellulose as a bulking agent or as a source of digestive fiber.



A key market challenge is to formulate optimum nutraceutical supplements for pets in palatable forms; anyone who has tried to give a dog or cat a medicinal pill knows how arduous a process it is for pet and human. Digestive enzymes and probiotics can be added to certain foods and treats.

The pet health supplement market is predicted to show continued growth as pet families want their dogs and cats to have the same preventive health options as they do.



To learn more enzymes and probiotics for pet supplements, contact Deerland Probiotics & Enzymes today.

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