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Digestive support supplement.

Also see:

- Supplements
- Oil Supplements
- Other Supplements (Proteolytic Enzymes, Senior Supplements)

Probiotics.

Friendly needed bacteria can play a "best supporting" role in your dog's digestive health

Probiotics are beneficial bacteria that live in the digestive tract.

There are a variety of different species belonging to genera that include *Lactobacillus*, *Bifidobacterium*, *Streptococcus*, and *Enterococcus* (often abbreviated by first initial only in names).

Some species, such as *Lactobacillus*, live primarily in the small intestine, while others, such as *Bifidobactera*, reside in the large intestine (colon). *Saccharomyces boulardii*, a form of yeast, is also considered a probiotic and may help to prevent and treat gastrointestinal disease, including diarrhea and Crohn's disease in people.
Products that do not require refrigeration may be more effective.

Benefits: All dogs can benefit from probiotics, which aid digestion and modulate the immune system.
Probiotics produce short-chain fatty acids (SCFAs), which inhibit the growth and activity of harmful bacteria, such as *E. coli*, *Salmonella*, and *Clostridium perfringens*, as well as providing other benefits to the intestines.

Human studies have documented the effectiveness of certain strains in treating diarrhea, irritable bowel, and intestinal inflammation (fewer studies have been conducted on dogs).

Probiotics may help prevent urinary tract infections, and can even reduce allergic reactions by decreasing intestinal permeability and controlling inflammation.

Species with specific strains known to benefit dogs include *Enterococcus faecium* (strain SF68) and *Bacillus coagulans* (formerly known as *Lactobacillus sporogenes*).
(Note that despite its proven beneficial effects, E. faecium may be best used short-term due to possible issues with antibiotic resistance, opportunistic infections such as UTIs, and effects if transmitted to humans.
Strain SF68 appears to be safer than other E. faecium strains.)
Bifidobacterium animalis (strain AHC7) has been shown to reduce the time for acute diarrhea to resolve in dogs.

Certain strains of *Lactobacillus acidophilus* improve frequency and quality of stools in sensitive dogs. *Lactobacillus rhamnosus* strain GG (LGG) is effective in preventing and treating diarrhea in humans, and may benefit dogs as well.
Probiotic products may contain one or several different strains.

Cautions: Some probiotic species require refrigeration in order to remain viable; follow label recommendations for storage.
It's questionable how many survive passage through stomach acid into the digestive tract, and whether they then colonize or must be continually replenished.

Many products, particularly those that are not refrigerated, contain fewer live organisms than their labels claim.

Freeze-dried probiotics may last longer than refrigerated or other powdered products, especially if the powder is exposed to moisture (such as when the container is opened and closed).
Probiotics in commercial foods may not survive processing or storage.
Probiotic products should always provide an expiration date.
In people who are immunocompromised, *Saccharomyces boulardii* may cause systemic yeast (fungal) infections.

Dosage: Probiotics are measured by colony forming units (CFUs).
Few studies have been done to determine effective dosages, but these numbers are usually in the hundreds of millions or higher.

If probiotics are being used to help with digestion, they should be taken with meals, but otherwise they may survive better if given between meals, particularly if taken with liquid that helps to dilute stomach acid and move them more quickly into the digestive tract (maybe give them after your dog takes a big drink).

Probiotics may be given short-term or long-term.
When using products intended for dogs, follow label suggestions for dosage. When using human products, give the full dosage to dogs weighing 22 kg of more.
Reduce the dosage for smaller dogs or if you see loose stools.

Recommended sources: Examples of canine probiotic formulas that include strains known to benefit dogs:
Dr. Mercola Healthy Pets Complete Probiotics for Cats & Dogs (available at Amazon).
Thorne Research's Bacillus CoagulansVet (available at Amazon)
Jarrow's Pet Dophilus (available at Amazon)
Dr. Dobias GutSense Organic, non-dairy probiotic and digestive support
Vetri-Science's Vetri-Probiotic Every day and Vetri Mega Probiotic (available at Amazon)
Nusentia's Probiotic Miracle (available at Amazon)
Purina's Fortiflora (available at Amazon)
PSCPets Intelliflora
Dogzymes Probiotic Max from Nature's Pharmacy (available at Amazon)

Products made for humans can also be given to dogs.
Yogurt and kefir with live cultures often contain lactobacillus acidophilus, and sometimes other species as well, but dosages are generally lower than those found in supplements.

More information:
"Probing Probiotics," Whole Dog Journal August 2006

Prebiotics.
Special ingredients support the friendly bacteria that aid digestive health.

Prebiotics (no, it's not a typo) nourish probiotics, the beneficial bacteria discussed last month that support digestive health, the immune system, and more.
A prebiotic is defined as "a non-digestible food ingredient that beneficially affects the host by selectively stimulating the growth and/or activity of one or a limited number of bacteria in the colon and thus improves host health".
Prebiotics are soluble, fermentable fiber, a type of non-digestible carbohydrate, also called resistant starch.
Fructo-oligosaccharides (FOS) are the most common, but other oligosaccharides, arabinogalactans, and lactulose are also considered prebiotics.
Sources include inulin (a form of FOS extracted from chicory), larch (a source of arabino-galactins), pectins, beet pulp, gums (e.g., guar gum), and wheat dextrin (Benefiber).

Prebiotics are included in many probiotic supplements (the combination is called "synbiotic" referring to the synergy between the two).
Food sources of soluble fiber include legumes (beans, lentils, and peas), whole grains, fruits, vegetables, and Jerusalem artichokes (sunchokes). Some commercial dog foods have added sources of soluble fiber, such as chicory. Soluble fiber supplements are also available.

Benefits: Prebiotics support the growth of probiotics, which help keep bad bacteria under control in the dog's gut.

By supporting the good bacteria, prebiotics help to prevent disease, improve digestion and nutrient absorption (especially minerals), and enhance the immune system.

Dogs fed prebiotics are less likely to get diarrhea caused by the overgrowth of bad bacteria, and soluble fiber also helps to prevent or treat diarrhea by absorbing water and slowing intestinal transit.
Fed to females during pregnancy and lactation, prebiotics provide enhanced immune protection to the puppies through colostrum and milk, and the puppies have an enhanced response to vaccines.

Soluble fiber is fermented by bacteria in the colon to short-chain fatty acids (SCFAs), the primary fuel for the cells of the colon.
Increased concentration of SCFAs and numbers of beneficial bacteria support gastrointestinal health and the immune system.

Prebiotics may be especially beneficial for dogs with immunosuppression or digestive disorders, and for all dogs following antibiotic therapy.
Studies done on rats show that prebiotics may help correct hyperlipidemia (high blood triglycerides or cholesterol) brought about by diabetes and other conditions?
Human studies have shown that prebiotics may reduce the risk of colon cancer and irritable bowel disorders.

Cautions: Prebiotics included in probiotic supplements are unlikely to cause any problems.
Fiber supplements, however, should be used with caution.
Too much soluble fiber can lead to gas and loose stools.
Insoluble fiber (roughage), such as cellulose, speeds intestinal transit time (laxative effect) and reduces mineral absorption.
Both types of fiber bulk up stools.
It's important that dogs drink enough water when taking fiber supplements (especially insoluble fiber); add water to food if needed.

Dosage: Probiotics and prebiotics are best given together.
Follow label instructions when using products made for dogs.

When using products made for humans, adjust the dosage based on the size of your dog compared to an adult human (e.g., give about half the human dose to a dog weighing 25- 30 kg, or one-quarter the human dose to a dog weighing 12- 15 kg pounds).
If using a fiber-only supplement, start with low doses and increase gradually.
Decrease the amount or switch to a different product if you see signs of gas or diarrhea.

Recommended sources:
Thorne Veterinary's ArabinexVET, an arabinogalactan product (available at Amazon)
Metamucil Clear & Natural, an inulin product (available at Amazon)
Jarrow's Pet Dophilus, contains inulin (available at Amazon)
Vetri-Science's Vetri-Probiotic BD, contains FOS and arabinogalactan powder. Also see Vetri-Probiotic Everyday (available at Amazon)
Nusentia's Probiotic Miracle, contains inulin (available at Amazon)
Nutramax Proviable-DC, contains fructooligosaccharide. Proviable-KP paste also available for short-term use in acute situations (available at Amazon)
Garden of Life's Primal Defense, contains cereal grasses that act as prebiotics (available at Amazon).

Digestive enzymes.
Digestive enzyme supplements provide a variety of benefits.
All dogs need digestive enzymes in order to break down their food, making the nutrients available for absorption.
In most cases, the pancreas produces ample enzymes and no supplementation is required.
Older dogs and dogs with digestive disorders may benefit from enzyme supplementation.

Dogs with exocrine pancreatic insufficiency (EPI), where the pancreas is no longer able to produce enzymes, require prescription-strength enzymes in order to survive.
Digestive enzymes might also help dogs with food allergies and intolerances.

Benefits:
Digestive enzyme supplements can benefit dogs who are unable to produce enough of their own enzymes due to pancreatic damage linked to acute or chronic pancreatitis, EPI, or diabetes.
Older dogs produce fewer enzymes as they age, and may also benefit from the addition of digestive enzyme supplements, especially if they are underweight.
If your dog suffers from gas, borborygmus (rumbling noises from the gut), frequent diarrhea, soft or voluminous stools, or stools that contain a lot of mucus, digestive enzymes may help.
Enzyme supplements are derived from plant, animal, and microbial sources.
Animal-source enzyme supplements contain pancreatin from the pancreas of pigs or cows.
Pancreatin provides protease, lipase, and amylase, used to digest protein, fat, and carbohydrates, respectively.
These supplements may work best for dogs with pancreatic damage.
Microbial and plant-derived enzymes are frequently used together.
Microbial enzymes are usually synthesized from fungal sources via fermentation, and have strange-sounding names, such as various *Aspergillus* fermentation products, *Trichoderma longibrachiatum*, and *Rhizopus oryzae*.
Plant-derived enzymes include papain (from papaya) and bromelain (from pineapple).
These enzyme products often supply lactase (used to digest lactose), cellulase (cellulose), and other enzymes in addition to protease, lipase, and amylase.

Microbial and plant-derived enzymes are often combined with probiotics (beneficial bacteria) for more complete digestive support, and are usually less expensive than pancreatin products.
Digestive enzyme supplements may help reduce coprophagia (eating feces), both by making the stool less attractive, and by increasing nutritional absorption so that the dog may no longer seek to eat stools.

Cautions:
While many dogs benefit from the use of digestive enzymes, they can also cause undesirable side effects.

If you give your dog a digestive enzyme product that causes loose stools, gas, vomiting, or signs of discomfort after eating, discontinue right away.

You might try a different type of enzyme product to see if that works better for your dog.

<u>Problems are more common with pancreatin products;</u>
Microbial and plant-derived enzymes are less likely to cause any adverse effects.

Enzymes are deactivated by temperatures above about 120 degrees, so do not warm foods after adding digestive enzymes, or add enzymes to hot foods.

Enteric-coated products made for humans might pass through a dog's shorter digestive tract without being utilized.

Dosage:
There is no specific recommended dosage for digestive enzymes other than the prescription-strength enzymes needed for dogs with EPI,

which are often highly concentrated (for example, 6x means it is 6 times stronger than plain pancreatin).

These products should not be used for healthy dogs.

Follow label instructions when using products made for dogs, or adjust the dosage of human products for the size of your dog (e.g., half the human dosage for a dog weighing 25 – 30 kg.

Recommended sources:
There are many different brands of digestive enzyme supplements. Here are a few examples:
Animal Essentials' Plant Enzymes and Probiotics (Available at Amazon)
In Clover's OptaGest (Available at Amazon)
NaturVet Digestive Enzymes (Available at Amazon)
PetLabs360's DigestAbles (Available at Amazon)
ProZyme's ProZyme Original and ProZyme Plus (Available at Amazon)
Thorne Veterinary's Dipan-9 (Available at Amazon)
Integrative Therapeutic's Similase (Available at Amazon)
PSCPets Daily Enzymes & Prebiotics