

Your complete guide to natural dog care and training

WholeDog Journal™



In the issue

3

WAGGING THE DOG (FOOD)

Increasingly, fads and trends are influencing the formulation of dog food. That's not generally a good thing. Here's how to discern marketing from substance when in search of an appropriate dry food for your dog.

9

APPROVED DRY DOG FOODS

A list of the companies that make foods that meet our selection criteria, as well as details about the products to help you choose products for your dog and budget.

14

UNDERSTANDING CANINE COMPULSIVE DISORDER

There is more to this than just a high-energy dog – and helping him will require more than just extra exercise.

17

MANGE, MANGE, GO AWAY

Historically, mange has been regarded as a scourge, and afflicted dogs are sometimes euthanized because of it. But the condition has never been easier to treat.

21

NUZZLE UP TO MUZZLES

Why and how every dog should learn to love wearing a muzzle.

2 Editor's Note

24 Resources



On page 3. Marketing run amok! – How to identify healthy dog foods that have been formulated by nutritionists, not the marketing department.

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On page 14. Whirling dervish? – Prevent this if you can; learn to stop it if you can't.



On page 17. New treatment for mange – It doesn't have to get like this anymore.

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Come, Sit, Stay

These are cues to relax and read; this issue is stuffed with useful information!

Those who are new to WDJ may not be aware that we talk at length about dry dog foods in the February issue each year. I don't know how that tradition got started; all I know is that dog food is all I can think about from before Thanksgiving through the winter holidays. We give this annual coverage a lot of space; the list of recommended foods alone takes many pages! In this issue, I hope that you



will learn a lot about the dog food industry as a whole, how the machinations of the pet food market may have affected you and your dogs, and how you can ensure that the food that you buy for your dog is appropriate. You will also find a long list of products that meet the criteria we use to identify better-quality foods, and we hope you can use it to find healthful foods for your dogs.

This issue also contains a helpful article from Mardi Richmond, a professional dog trainer who found herself grappling with a vexing behavior issue in her own young dog: a compulsive behavior disorder that saw the dog spinning in circles chasing her tail, attacking her own hind foot, and going into a trance-like state watching the sunlight sparkle on the surface of a pond. Mardi describes how compulsive disorder manifests in dogs and explains how to respond in order to help a dog recover. She's taken her own advice, and it works! Her own dog no longer meets the description of a troubled victim of this serious condition.

I asked Dr. Catherine Ashe, one of our veterinarian contributors, to write about canine mange for this issue, as I personally was dismayed with the plethora of inaccurate and inadequate information that I found online about the condition. I had agreed to foster a litter of seven severely affected puppies that were brought into my local shelter in the midst of the devastating Camp Fire. I had no previous experience with a dog suffering from this condition, but with Dr. Ashe's informative guidance, I found that treating the mange to be the easiest part of caring for these unfortunate pups, who are pictured in the article.

Finally, Pat Miller, WDJ's Training Editor and a professional dog trainer who lives Fairplay, Maryland, has written a useful article about why and how to condition a dog to happily and comfortably wear a muzzle. Hint: The devices are not just for dogs who display aggressive behavior in certain situations; as just one example, I know of a dog who wears her muzzle every time she is released to play and potty in her own backyard. If she doesn't have it on, she spends much of her time hunting for and eating acorns that have fermented following the winter rains and that have sent the little dog to the veterinary emergency room several times. For this dog and other dogs with pica, especially dogs who eat pebbles and stones, well-fit muzzles rock!

NK



NUTRITION

Wagging the Dog (Food)

Increasingly, fads and trends are influencing the dog food makers' formulations and marketing – and that's not generally a good thing.

Twenty-plus years ago, there were some people who gave WDJ credit for helping push the pet-food industry into the modern era, by speaking out against the use of artificial preservatives, colors, and flavors and highly processed waste products from the human-food industry. Today, we have heard hints that we are among those who should be blamed for a dog-food formulation trend that may have killed dogs: certain grain-free diets that have been implicated in a spike of cases of dilated cardiomyopathy (DCM) in dogs. This is in spite of the fact that we have *never* promoted grain-free diets for any dogs save those individuals who are allergic to or intolerant of grains.

I honestly don't think that we've earned

either distinction. In my view, it's the pet-food company marketing departments that are largely responsible for many beneficial *and* deleterious developments in the pet food industry in the past 20 years. Marketing claims have run completely amok! And in some cases, their success has been detrimental to our dogs. But let's trace the history of this thing. There are some good lessons to be learned here if you want to feed your dog products that will *promote* rather than impair his health.

A LITTLE PET-FOOD HISTORY

When we first contacted pet food companies to ask questions about their formulations and manufacturing, some 22 years ago, we

The verbiage and imagery on dog food labels has gotten ridiculous. We'd like to think that people don't pay any attention to most of this nonsense, but all indications are that they do!



This claim is impressive only in the context of the product's other protein sources and their position on the ingredients list. Also, what is the alternative to "real" chicken? We're curious how this phrase got so ubiquitous on dog food labels.



were more or less brushed off. Most manufacturers were tight-lipped and frankly patronizing in response to nearly any inquiry from consumers or consumer-oriented journalists. The prevailing attitude at that time was that scientists had figured out what was best for dogs, and that even though their ingredients lists didn't sound very appealing and the manufacturing locations and ingredient sources were a secret, grownups were in charge and dog owners shouldn't worry about what was going on behind the curtain.

It's important to remember that the pet-food industry was *founded* on the utilization of waste products from the industrial human-food manufacturing industry.

Also important: In the early days of the pet-food industry, most of the pet-food companies really did have *actual* scientists, people with advanced degrees in animal nutrition, working to transform those byproducts of the human-food industry into foods that would sustain our pets' lives.

But in the late 1990s, the processed human-food industry was changing rapidly, and the pet-food industry was close behind. Increasingly, people wanted to know exactly what was in their food (and their pets' food), why it was included, and where the ingredients came from.

We were in total support of the pursuit of this knowledge. We celebrated and promoted companies that were transparent about their ingredients and manufacturing.

As one might expect, the companies that were *most* transparent and willing to share information about their products tended to use high-end ingredients and produce high-end foods – what started to

be referred to variously as “natural/ holistic” or “super premium” foods. This makes sense; companies that used raw ingredients procured from the same raw-ingredient sources of human food (*not* byproducts) and manufactured the products in facilities with AIB and ISO 9001 certifications had absolutely nothing to hide.

THE TIMES WERE A-CHANGIN'

We weren't the *only* fans of these products; consumers (and their dogs, presumably) responded *very* positively to these formulas and their makers. In fact, the fastest growth in the pet food industry over the past 20 years has been consistently found in the high-cost, high-quality segment of the market.

Old-guard pet-food makers who were originally quite critical of the high-end products have since learned that there is no top to the market for dog foods that meet – or even exceed – the level of quality of foods that humans buy for themselves. To keep from getting left behind, and to participate in the hottest sector of the market, pretty much every pet food maker has rolled out at least a few products formulated to compete in the “super-premium” market niche.

I will admit that we made a little fun of some of the early efforts made by the old-guard industrial-waste pet-food makers to emulate the new wave of super-premium/natural/ holistic foods. Truly “holistic” food formulation consists of more than adding blueberries to the food and telling the marketing folks to go to town with it. But that's what quite a few of them did – *and it seemed to work*. Never mind that in many cases

the products were largely the same as ever; everyone loves blueberries!

What was that old line? “Nobody ever went broke underestimating the intelligence of the American public.”

By the 2010s, the marketing of pet foods had completely transformed from “We're veterinarians (alternately, professional breeders of show dogs); trust *us* to know what's good for your dog!” to “Doesn't this look and sound oh-so delicious and healthy?”

MARKETING DRIVES FADS; FADS SELL FOODS

Dog owners shouldn't feel singled out; the marketing of *human* foods relies very heavily on consumer trends and fads. And just about *every* human-food trend or fad has found its way into pet food and pet-food marketing, from apples to zucchini.

Whereas pet-food companies used to rely on scientific research on animal nutrition and animal feeding trials, increasingly, they have simply started to mimic trendy human-food trends. The fads that began as an annoying (to the old-school pet-food companies) trickle have become tidal waves that seem to have swept *every* pet-food maker company onto the shores of Fad Food Island.

What do we mean? Here is a partial list:

■ **Fresh meat first.** The first big thing that came along in the super-premium dog-food market was the trend of formulating foods with fresh (or frozen) whole, named meats at the top of ingredients lists – something we have promoted from our first food review. We think it's a *good* thing *when it's done right*; it isn't always done right.

What's "right"? We've explained this before at greater length, but in brief, because fresh meat is high in moisture, it's lower in total protein (by weight) than a comparable amount (by weight) of meat meal. Fresh or frozen meats contain as much as 65 to 75 percent water and only 15 to 25 percent protein. In contrast, animal protein meals contain only about 10 percent moisture and as much as 65 percent protein.

Ingredients lists are ordered by the weight of the ingredients included in the formula, and while fresh meat is heavy, it can't contribute as much total protein as a dog food needs; so when it appears first on an ingredients list, the food *will* have another protein source – and, depending on its position on the ingredients list, this secondary source of protein may actually provide the majority of the protein in the food.

If fresh meat appears first on an ingredients list, we like to see the secondary protein source appear second (no lower than third) on the ingredients list, and we'd like it to be another animal-protein source (as opposed to a plant-sourced protein). And the animal-protein source that

one rationale, chief among them that fresh meats are more digestible than comparable meat meals (though this is highly disputable; see Linda Case's article in the January 2018 issue of WDJ. "Dog Food Digestibility Levels Matter"). Note that Halo also includes dried egg product as a protein source in its dry dog foods (third on the ingredients list), as well as several plant-based protein sources.

Open Farm says it avoids the use of meat and poultry meals in order to ensure full traceability, since it's harder to reliably trace the source of *all* the meat that goes into a rendered meat meal. Note that it uses fish meals and some plant-based protein sources as secondary protein sources.

We have seen lots of evidence pointing to the fact that dogs find foods that have a relatively high inclusion of fresh meats to be particularly palatable. We also believe instinctively, without the benefit of canine nutritional research studies that back this up, that a relatively high inclusion of any less-processed animal protein sources in a highly processed food cannot help but improve the product's vitality – if only in terms of proteins and enzymes that are less altered or damaged by heat.

The record sales growth of foods formulated with "real meat first" and other high inclusions of meat (such as those that show several meat and meat meals in the first several spots on the ingredients list) would *seem* to suggest that dogs find these foods palatable and that their owners find them

to be beneficial – *or* we've *all* just been taken in by the marketing.

■ If it sounds good, add it in. Now, we know that dogs have been living with humans and eating what we eat for thousands of years. And we know that they are omnivores whose bodies have amino acid, fat, and mineral requirements that are most efficiently and optimally met by the consumption of other animals – but are beautifully able to make use of just

about anything digestible, whether it's animal, vegetable, or mineral.

But it's a stretch to assume that any food ingredient that humans enjoy or reap some benefit from is going to benefit our dogs. Nonetheless, pet-food companies that are looking to distinguish their products in some way have increasingly embraced the practice of including anything that has made human nutrition headlines: berries, fruits, vegetables, nuts, seeds, sprouts, herbs of all kinds, garlic, various oils (sunflower, olive, coconut, avocado, etc.), and nutraceuticals – if you've heard of it, some pet-food company has added it to their products.

Any of those ingredients may offer health benefits for dogs. But research is required to prove the benefit and to find the effective dosage and form of delivery that provides the benefit. Unless the ingredient is included in a product in the form and amount proven to be beneficial, its inclusion should be considered pure marketing.

As just one example: Some foods boast that they contain glucosamine, which *has* been proven to produce an anti-inflammatory effect when delivered in relatively high doses. Some food labels don't bother to include the amount of glucosamine in the food, however; others include the amount in the guaranteed analysis, but this "dosage" is usually minimal when compared to the therapeutic amounts that research has shown to be effective.

■ The "No" trend. Perhaps the most prevalent pet-food fad of the past 20 years was what we call the trend of "No." As owners became aware that dogs liked and were healthier when fed foods that contained more meat and less corn, wheat, and soy, the "No corn, wheat, or soy" messages on the labels got bigger and more ubiquitous. The "No" trend had begun.

The next most popular "No" claim is well accepted as being healthful: "No artificial flavors, colors, or preservatives." Some of today's "No" claims have advanced into more controversial territory, such as "No



Feed my dog a sprig of parsley? Any time. Buy a food with this on the label? Sheesh! No.

packs the most potent protein punch in terms of the amino acids that are essential in a dog's diet are animal-protein meals. That's right: Rendered meat – a highly processed ingredient to be sure, but an ingredient with the longest history and research studies to prove that dogs find it palatable, digestible, and nutritious.

Companies who eschew the use of *any* meat meals (such as Halo and Open Farm) cite different reasons for their choices. Halo offers more than

GMO ingredients” and “No fillers” (a great-sounding but completely undefined term).

Other “No” claims have marched well past the point of potentially educating consumers into highly confusing territory. Today, it’s easy to find labels that proclaim their lack of perfectly healthy ingredients – such as chicken and beef – that are found in countless other foods! It’s *possible* that the companies are simply trying to identify alternatives to help owners of dogs who are allergic to some of the most common pet-food ingredients, but it causes lots of confusion for the average buyer of dog food. “What did I miss? Is chicken bad, now?”

■ Grain-free, gluten-free – and full of peas? When the first grain-free dry dog foods appeared on the market, we were ecstatic – to be precise, ecstatic for dogs who are allergic to or intolerant of grains. To repeat something I said earlier: We have never suggested that grain-free foods were better for *all* dogs, or just *any* dogs. They are a valuable resource for dogs who react badly to grains

Linda Case, an animal nutrition expert, author, dog trainer, and frequent contributor to WDJ, wrote about taurine-deficient DCM in the September 2018 issue of WDJ.

– that’s as far as we have ever gone.

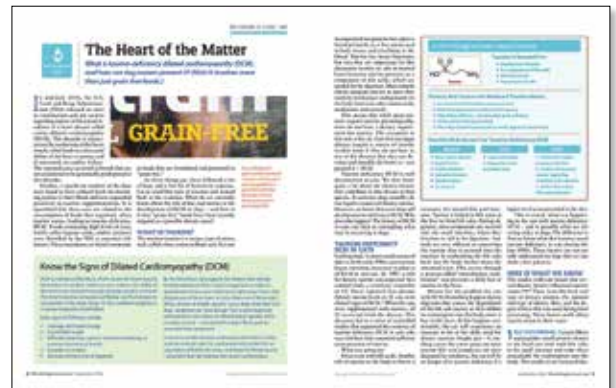
We’re not sure, though, how this particular trend took off like wildfire. I complained in a WDJ blog post on March 2, 2017, that it has gotten difficult to find products that meet WDJ’s basic dry dog food selection criteria and that *do* contain grain. Many pet food companies that we have appreciated for years now offer *only* grain-free foods – and in our opinion, that’s just nuts. There are not *that* many dogs in the world who are allergic to or intolerant of grain!

Here’s the basis of my misgivings about grain-free dry dog foods being fed as a daily diet to dogs who are *not* allergic to or intolerant of grains: The grains in these foods have been replaced with carbohydrate sources

(including peas, lentils, chickpeas, and other “pulses” or legume seeds, as well as potatoes and sweet potatoes) that haven’t been studied as major ingredients in canine diets for very long. In contrast, carbohydrate sources such as rice, barley, and even the much-maligned “corn, wheat, and soy” have a long history in both dog food research and use in dog food.

So, there is a record number of foods that contain these grain-alternatives on the market, a relatively short history of feeding these grain-alternatives to dogs, and few companies conducting ever-fewer AAFCO-approved feeding trials of their products in order to secure a “complete and balanced” nutritional claim . . . This may have created the perfect storm that created the spike in cases of canine DCM that the United States Food & Drug Administration (FDA) described in its July 2018 communication, “FDA Investigating Potential Connection Between Diet and Cases of Canine Heart Disease.”

The communication discussed the fact that veterinary cardiologists had reported to the FDA that they had seen a jump in the number



Minding your peas: We have no explanation for the sudden appearance of peas in every possible form, in the majority of grain-free foods, and many foods that contain grain, too.

of cases of DCM in dogs and that many of the dogs lacked a breed-related predisposition for DCM. In addition, most of the dogs had been fed diets that contained potatoes or multiple legumes such as peas, lentils, other “pulses” (seeds of legumes) – and their protein, starch, and fiber derivatives – early in the ingredient list. Also, the affected dogs were fed these diets as their primary source of nutrition for time periods ranging from months to *years*.

Important to note: It’s well-known that canine DCM can be induced by diets that are deficient in the amino acids that dogs use to produce their own supply of taurine: cysteine and methionine. However, not all the dogs in the cases of DCM being investigated by the FDA have been found to have deficient levels of taurine.

Also important: The FDA hasn’t implicated *all* grain-free dog foods in this rash of DCM cases; its investigations have narrowed down the culprits to the products that use “peas, lentils, other legume seeds, or potatoes as main ingredients” – with the phrase “main ingredient” being defined here as something that appears “early in the ingredient list.”

Further, the FDA has clarified that there are quite a number of foods that are *not* grain-free that contain “peas, lentils, other legume seeds, or potatoes as main ingredients.” And *that*, ladies and gentlemen, has been the biggest shock of our reviews of pet-food labels this year. All of a sudden, it seems, these ingredients are absolutely *everywhere*. Who planted all these darn peas? What is going on here?

We’d like to blame overzealous marketing of grain-free diets for all of this, or overuse of these suddenly omnipresent peas, but it’s clearly more complex than just that. Mark this crime as unsolved and be alert if you have fed your dog a diet that meets the description of those implicated by the FDA, and/or if your dog shows any signs of DCM:

- Lethargy, decreased energy
- A persistent cough

- Difficulty breathing, rapid or excessive breathing, or seeming shortness of breath
- Episodes of collapse
- Anorexia (chronic loss of appetite)

WHAT ACTUALLY IS IMPORTANT

When it comes to selecting foods for your canine companion, we *beg* you to pay little attention to the graphics and splashy text on the labels; the most important information on the product label tends to be in small type on either the back, bottom, or hard-to-see side panels of the bags. You will probably need glasses, a magnifying glass, or our favorite label-reading tool, the mobile phone (use the camera and zoom in! works great!).

The three most important bits of information on the label are:

- the list of ingredients
- the guaranteed analysis
- the nutritional adequacy statement (a.k.a. the AAFCO statement)

We explain what to look for – and what to *look out* for – in each of those sections on the following page.

And if you are going to buy a food for your dog on the strength of some attribute that you’ve heard about or seen advertised somewhere – whether in a magazine, on TV, at a dog show, on a website, in a pet supply store, or on the product label itself – make sure you know what, *exactly*, you want the attribute to do for your dog. Then *watch* your dog! If the product performs as you wish – terrific! You can add that food to the list of foods you rotate among for feeding your dog throughout the year.

You *do* rotate foods, don’t you? If not, you should. Switching foods ensures that your dog receives varying levels of vitamins, minerals, and micronutrients – and protects him from nutrient excesses, deficiencies, or imbalances that might be found in any particular food brand or variety.

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THE LABEL INFORMATION THAT MATTERS MOST

1 Ingredients. In our opinion, the ingredients list tells you more about the product's quality than anything else. It's a highly regulated section of the label; the ingredients must be listed in descending order of their inclusion in the food by weight.

In order to appear on our "approved dry dog foods" list (see next page), a dry dog food must have the following:

HALLMARKS OF QUALITY

- ✓ Lots of animal protein at the top of the ingredients list. Ingredients in pet food are listed in order of the weight of that ingredient in the formula, so you want to see a named animal protein or named animal protein meal first on the ingredients list. ("Named" means the species is identified: chicken, beef, lamb, etc. "Meal" means a dry, rendered product made from an identified species.)
- ✓ When a fresh meat is first on the ingredient list, there should be a named animal-protein meal immediately or closely following the meat. Fresh meat contains a lot of moisture (which is heavy), so if meat is first on the list, it acts like a diluted protein source; while it adds an appealing flavor and aroma to the food, it doesn't actually contribute that much protein. That's why another named source of animal protein should appear in the top two or three ingredients.
- ✓ When vegetables, fruits, grains, and/or carbohydrate sources such as potatoes, chickpeas, or sweet potatoes are used, they should be whole. Fresh, unprocessed food ingredients contain nutrients in all their complex glory, with their vitamins, enzymes, and antioxidants intact.

Bonus points for products that are made with ingredients that are certified as organic, humanely raised, or sustainably farmed. We understand that it's good marketing, but we also like to buy from companies who support shelters or rescue, manufacture in "green" plants, and participate in recycling and waste reduction programs.

DISQUALIFIERS

Here are some things to *look out* for – undesirable attributes that indicate a lower-quality food:

- ✗ Meat byproducts, poultry byproducts, meat byproduct meal, and poultry byproduct meal. Many of these animal protein sources are nutritious, but are often handled with far less care than more expensive animal protein sources (i.e., without refrigeration and with less sanitation).
- ✗ "Generic" fat sources. "Animal fat" can literally be any mixed fat of animal origin. "Poultry" fat is not quite as suspect as "animal fat," but "chicken fat" or "duck fat" is better (and traceable).
- ✗ Watch out for a practice commonly called "ingredient splitting," whereby two or more very similar food "fractions" appear on the ingredients list. Because the ingredients are listed in descending order of their weight, a manufacturer can make it appear that a high-quality ingredient is represented in the food in a greater amount than it really is. This is accomplished by using several fractions or versions of an ingredient as separate ingredients (i.e., rice, brewer's rice, rice bran, rice protein meal). If all the iterations of that ingredient were combined or reconstituted, they would outweigh the higher-quality ingredient, pushing it down on the ingredients list.

✗ We don't recommend foods that use animal plasma or blood meal as a protein source.

✗ Added sweeteners. Sweeteners are used to increase the palatability of foods comprised mainly of carbohydrate sources (and containing less animal protein).

✗ Artificial colors, flavors, or preservatives (such as BHA, BHT, ethoxyquin). The color of the food doesn't matter to your dog. And it should be flavored well enough with healthy meats and fats to be enticing. Natural preservatives, such as mixed tocopherols, can be used instead.

2 Guaranteed analysis (GA). Listed in this section of the label are the *minimum* amounts of protein and fat that are present in the food (the amounts may actually be higher than those listed), and the *maximum* amounts of moisture (water) and fiber that are present in the food.

Minimum levels are used for protein and fat because those are the most important values in a dog's food; it's what you are paying for. Maximums are used for moisture and fiber because this is *not* what you want to pay for!

Manufacturers may (but are not required to) include other nutrient values in the GA. By doing so, they are *legally* guaranteeing those amounts in the food, and this is subject to testing and enforcement by state feed control officials. It's a good way for a pet food maker to put their money where their mouths are concerning claims of special benefit from the inclusion of certain nutrients, such as DHA or glycosaminoglycans (e.g., chondroitin).

When you switch or rotate foods, you need to pay particular attention to the amount of protein and fat in the products; try to find products with protein and fat levels that suit your dog. If his weight and condition are perfect, find other products with macronutrient levels in the same range. As just one example, switching your older, slightly overweight dog to a food that contains twice the protein and fat that she's been accustomed to could invite disaster in the form of crippling weight gain or even pancreatitis.

3 Nutritional adequacy statement. It's *crazy* that this critical bit of information is difficult to find on most dog-food labels. The statement is usually in *tiny* print, but can be identified by the phrases "complete and balanced" and "the Association of American Feed Control Officials" (AAFCO, whose nutritional guidelines legally define "complete and balanced").

There are two AAFCO dog food nutrient profiles – tables that detail the minimum (and in some cases, maximum) levels of each nutrient required by dogs. One profile lists the nutrient requirement levels for "growth and reproduction" and the other profile lists those for "adult maintenance." In general, the nutritional requirements for dogs engaged in the process of growth and reproduction are higher than those for adult dog maintenance.

Statements that claim that a product provides complete and balanced nutrition for "growth and reproduction," "puppies," or "dogs of all life stages" are **equivalent**; a product with any of those claims has met the "growth and reproduction" nutritional profile. But if the product is complete and balanced for "adult maintenance" only, it will be nutritionally **inadequate** for puppies.

WHOLE DOG JOURNAL'S APPROVED DRY DOG FOODS FOR 2019

Products appear alphabetically by best-known name. In some cases this is the name of the company that makes the food; in others, it's the name of the food line. We have split some lines made by the same manufacturer into separate rows to better distinguish prices, # of varieties, etc.

PRODUCT NAME Company Information	Average Price/lb.	# Varieties, # Grain-Free	Meat, Meal, or Both?	Range of Protein Content Range of Fat Content	Notes
ACANA Champion Petfoods, Auburn, KY (877) 939-0006; acana.com/usa	US\$2.83	16 GF	Both	Min. 29% - 31% protein Min. 10% - 20% fat	Champion now has manufacturing plants in Canada and the U.S. and sells the products made in each location in their respective countries. Product offerings and formulations are slightly different in each country, as they are made with locally sourced ingredients.
Champion Petfoods, Edmonton, AB (877) 939-0006; acana.com	Can. \$2.83	20, 17 GF	Both	Min. 29% - 35% protein Min. 14% - 22% fat	
ADDITION Kent, WA (425) 251-0330; additionfoods.com	\$2.98	6 GF	5 meal, 1 both	Min. 14% - 26% protein Min. 3.5% - 13% fat	Addiction makes its own foods in New Zealand. Kangaroo variety contains dry meat.
ANNAEAET Telford, PA (888) 723-0367; annaet.com	\$2.63	14, 6 GF	10 meal, 4 both	Min. 23% - 33% protein Min. 9% - 20% fat	All of Annaet's foods contain a sustainable algae source of omega-3 fatty acids.
ARTEMIS FRESHMIX, OSOPURE Gardena, CA (310) 965-1933; artemiscompany.com	\$2.72	7, 4 GF	Both	Min. 20% - 28% protein Min. 6% - 17% fat	Osopure line is grain-free, and each variety contains a single animal protein source. Freshmix varieties contain several animal protein sources.
AVODERM Breeder's Choice (a div. of Central Garden & Pet); Walnut Creek, CA (866) 500-6286; avodermnatural.com	\$2.67	22, 13 GF	15 meal, 7 both	Min. 20% - 30% protein Min. 8% - 16% fat	Avocado and avocado oil are featured in all Avoderm foods. Revolving Menu grain-free line uses both meat and meal; the 7 varieties are formulated with similar nutrient levels so an owner can rotate among them.
AZMIRA Tucson, AZ (520) 886-1727; azmira.com	\$2.02	2	Meal	Min. 22% protein Min. 8% fat	Azmira makes just two foods, a lamb and a turkey variety, both made with whole brown rice, milo, and barley.
BENCH & FIELD Grand Rapids, MI (800) 525-4802; benchandfield.com	\$2.50	1	Meal	Min. 24% protein Min. 15% fat	Bench and Field offers only one dry food, made with chicken meal. Food is sold in upscale grocery (Trader Joe's, Whole Foods) and direct-shipped (free shipping).
BLACKWOOD Lisbon, OH (888) 843-1738; blackwoodpetfood.com	\$2.16	14, 3 GF	Meal	Min. 20.5 - 33% protein Min. 9% - 23% fat	Blackwood is the "house brand" at Ohio Pet Foods, so they can make their products in small batches (for fresher food). "Sensitive Diet" line offers novel proteins.
BORÉAL Beamsville, ON (800) 253-8128; borealpetfood.com	\$1.95	12, 8 GF	4 both; 8 meal	Min. 24% - 29% protein Min. 12% - 18% fat	Original line contains both meat and meals; Proper and Vital lines contain only meals.
CANIDAE San Luis Obispo, CA (800) 398-1600; canidae.com	\$1.98	31, 26 GF	26 both; 5 meal	Min. 20% - 36% protein Min. 9% - 19% fat	"Pure" line (all GF) starts with fresh meat, follows with meat meal. Under the Sun line (single protein, GF, no potato) starts with meal, follows with fresh meat in about the 6th spot. All Life Stages line = meal only.
CARNA4 Toronto, ON (855) 422-7624; carna4.com	\$8.26	3, 2 GF	Meat	Min. 29% protein Min. 15% fat	Carna4 uses fresh muscle meat, liver, eggs, and fish, whole produce, and certified organic sprouted seeds to make this baked food, and in small batches.
CHICKEN SOUP FOR THE SOUL Cos Cob, CT (800) 658-0624; chickensouppets.com	\$1.39	11, 4 GF	Both	Min. 21 - 30% protein Min. 6% - 18% fat	Ingredients lists for all formulas start with fresh meat, immediately followed by meat meals, then whole grains.
CLOUDSTAR WELLMADE St. Louis, MO (800) 361-9079; cloudstar.com	\$2.81	5 GF	Meal	Min. 24% - 26% protein Min. 8% - 15% fat	Baked foods; each is made with a single animal protein. Peas and lentils are main carb sources.
CORE Wellpet, Tewksbury, MA (800) 225-0904; wellpet.com	\$2.62	12 GF	Both	Min. 32% - 38% protein Min. 12% - 18% fat	Core foods are "protein focused, grain free."

PRODUCT NAME Company Information	Average Price/lb.	# Varieties, # Grain-Free	Meat, Meal, or Both?	Range of Protein Content Range of Fat Content	Notes
DOGSWELL Whitebridge Pet Brands, St. Louis, MO (888) 559-8833; dogswell.com	\$2.07	10, 8 GF	Some both, some meal	Min. 24% - 32% protein Min. 12% - 18% fat	Dogswell and Nutrisca lines are grain-, potato-free and contain meat and meat meals 1st and 2nd. Vitality and Happy Hips contain grain; latter has joint supplements.
DR. GARY'S BEST BREED Findlay, OH (800) 500-5999; bestbreed.com	\$1.36	16, 3 GF	Meal	Min. 21% - 32% protein Min. 7% - 19% fat	Dr. Gary's emphasizes the use of healthy, balanced fats for healthy skin, coat, energy, and stamina. Fiber sources are chosen for their pre- and pro-biotic characteristics. All formulas meet EU standards.
DR. TIM'S PET FOOD Marquette, MI (906) 249-8486; drtims.com	\$2.18	9, 3 GF	6 meal, 3 both	Min. 26% - 35% protein Min. 10% - 25% fat	Low-ash meat meals are used, chosen to provide a proper amino acid profile. Auto-, direct-ship available. Note: Some varieties contain porcine plasma or porcine blood meal (we don't approve of).
EAGLE PACK Wellpet, Tewksbury, MA (800) 225-0904; eaglepack.com	\$2.46	7	Meal	Min. 23% - 30% protein Min. 6% - 19% fat	Eagle Pack's foods are made with meat meals and whole grains. Guaranteed analyses include omega-3 and -6, calcium, phosphorus, and probiotic levels.
EARTHBORN HOLISTIC Midwestern Pet Foods, Evansville, IN (800) 474-4163 x 450 earthbornholisticpetfood.com	\$2.31	17, 15 GF	16 meal, 1 meat	Min. 22% - 38% protein Min. 7% - 20% fat	Venture grain-free line offers novel proteins (including squid!). Earthborn's "holistic" line uses meat meals and whole grains. Earthborn recycles its bags and offers a "UPCs for Trees" program.
EVANGER'S Wheeling, IL (847) 537-0102; evangersdogfood.com	\$2.21	5, 3 GF	2 meal, 3 both	Min. 24% - 33% protein Min. 3.5% - 9.9% fat	Varieties include pheasant & brown rice, whitefish & sweet potato. Evanger's dry dog foods are made by an independent contract manufacturer.
FARMINA N&D New York NY (888) 292-9965; farmina.com/us	\$3.30	45, 30 GF	Meat	Min. 23% - 42% protein Min. 8% - 22% fat	All the Farmina lines (N&D Grain-Free, Quinoa Functional, Pumpkin Grain-Free, and Ancestral Grain lines) contain fresh and dehydrated meats (no meat meals).
FIRSTMATE, KASIKS, SKOKI FirstMate Pet Foods North Vancouver, BC (800) 658-1166; firstmate.com	\$2.34	17, 12 GF	Meal	Min. 18% - 32% protein Min. 8% - 20% fat	FirstMate makes its own foods in British Columbia. Each FirstMate and Kasiks food includes a single animal-protein source – helpful for feeding food-allergic dogs. Company claims free-run chicken and lamb are used. Skoki is FirstMate's economy line.
FROMM Mequon, WI (800) 325-6331; frommfamily.com	\$2.30	29, 14 GF	Both	Min. 23% - 30% protein Min. 10% - 18% fat	This family-owned company makes its own foods in its own plants. Fromm has three lines: Four-Star Nutritionals, Gold, and Classic (economy line).
GATHER Petcurean, Abbotsford, Canada (866) 864-6112; petcurean.com	\$5.00	3, 2 GF, 1 vegan	2 both, 1 none	Min. 22% - 30% protein Min. 11% - 15% fat	Gather comes in one vegan variety. The other two are made with certified free-run and/or wild-caught animal protein sources.
GO! Petcurean, Abbotsford, Canada (866) 864-6112; petcurean.com	\$2.88	14, 10 GF	Both	Min. 22% - 36% protein Min. 12% - 18% fat	Go! has been rebranded as Petcurean's "solutions" foods for skin and coat, "hip and joint support," and food sensitivities (limited ingredients.)
GRANDMA MAE'S New York, NY (888) 653-8021; grandmamaes.com	\$2.91	16, 11 GF	8 both, 8 meal	Min. 23% - 32% protein Min. 7% - 16% fat	Nine of these have a single animal protein source, with meat 1st and the corresponding meat meal 2nd on ingredients list. Company says no GMOs are used.
HALO Tampa, FL (800) 426-4256; halopets.com	\$3.19	14, 7 GF	13 meat, 1 vegan	Min. 20% - 28% protein Min. 10% - 18% fat	Halo has always eschewed meat meals in favor of meat. It recently reformulated all its foods and now uses only meats that are GAP 3-certified (comprehensive welfare and care standards) and MSC-certified fish.
HEALTH EXTENSION Deer Park, NY (800) 992-9738; healthextension.com	\$2.45	12, 6 GF	Both	Min. 24% - 27% protein Min. 9% - 18% fat	Made in small batches, never recalled, uses non-GMO produce, and other "responsibly sourced" ingredients. Company is family-owned and operated.

PRODUCT NAME Company Information	Average Price/lb.	# Varieties, # Grain-Free	Meat, Meal, or Both?	Range of Protein Content Range of Fat Content	Notes
HOLISTIC SELECT Wellpet, Tewksbury, MA (800) 225-0904; holisticselect.com	\$2.58	16, 10 GF	4 both, 12 meal	Min. 24% - 32% protein Min. 8% - 18% fat	Company regards digestive health and support as foremost in importance, and adds probiotics and digestive enzymes. Made in company's own mfg. plant.
INSTINCT Nature's Variety, St. Louis, MO (888) 519-7387; instinctpetfood.com	\$3.15	31, 27 GF	3 meat, 28 both	Min. 23.5% - 37.5% protein Min. 14% - 22.5% fat	Instinct Original is coated with freeze-dried meat. Ultimate Protein line uses only meat. Raw Boost contains freeze-dried meat nuggets. The Prairie line of foods, their only products that contain grain, has been renamed as "Instinct Be Natural."
LIFE'S ABUNDANCE Jupiter, FL (877) 387-4564; lifesabundance.com	\$2.44	5, 1 GF	Meal	Min. 25% - 30% protein Min. 11.5% - 19% fat	Buy food from a local rep (or become a rep!) or have it autoshipped. (Prices used for average are autoship prices.)
LIFESPAN Petguard, Green Cove Springs, FL (800)874-3221; petguard.com	\$1.98	1	Both	Min. 27% protein Min. 15% fat	Fresh chicken, chicken meal, whole brown rice, oatmeal, chicken fat... This is how nice foods were made before the grain-free craze.
LOTUS Lotus Natural Food, Torrance, CA (888) 995-6887; lotuspetfoods.com	\$3.68	10, 5 GF	3 both, 7 meal	Min. 18% - 27% protein Min. 8% - 16% fat	Lotus foods are baked, not extruded. Grain-free varieties cost as much as \$5.74/pound; the life stage foods (puppy, adult, senior) average \$3.09/lb.
MERRICK A div. of Nestlé Purina, Amarillo, TX (800) 664-7387; merrickpetcare.com	\$3.20	43, 38 GF	Both	Min. 25% - 38% protein Min. 8% - 17% fat	Only five varieties ("Classic" line) contain grain. First ingredient is always meat. Backcountry line mixes in freeze-dried nuggets. All made in Merrick's own plant.
NATURAL BALANCE A div. of J.M. Smuckers, Burbank, CA (800) 829-4493; naturalbalanceinc.com	\$2.24	27, 15 GF	22 both, 2 meal, 2 meat	Min. 18% - 32% protein Min. 8% - 17% fat	Super-high-protein, limited ingredient, reduced calorie, (and one vegetarian) products available. Company makes test results of each batch available online.
NATURAL PLANET NutriSource (a div of KLN Family Brands); Perham, MN; (800) 525-9155; naturalplanetpetfood.com	\$2.18	5, 4 GF	Both	Min. 23% - 25% protein Min. 14% - 15% fat	Made with free-range organic chicken and some other organic ingredients.
NATURE'S SELECT Anaheim, CA; (714) 993-5500; naturessselectpetfood.com	\$1.84	9, 4 GF	3 both, 6 meal	Min. 22% - 33% protein Min. 10% - 17% fat	Buy from a local rep for home-delivery or sell food yourself. Made with animal protein meals and whole foods.
NEWMAN'S OWN Westport, CT (203) 222-0136; newmansown.com	\$2.08	2	Both	Min. 21% - 24% protein Min. 10% - 12% fat	Ingredients start with fresh meat; meat meal appears a few ingredients lower on the labels. Many organic ingredients included.
NOW FRESH Petcurean, Abbotsford, Canada (866) 864-6112; petcurean.com	\$3.34	13 GF	Meat	Min. 24% - 29% protein Min. 10% - 18% fat	Only fresh meats are used in these life-stage formulas (puppies, adults, seniors; also small and large-breed foods).
NULO Austin, TX (512) 476-6856; nulo.com	\$2.90	15 GF	Both	Min. 30% - 32% protein Min. 7% - 18% fat	Medal Series foods are sold exclusively at Petsmart. Freestyle recipes sold through independent retailers and online.
NUTRISOURCE Perham, MN; (800) 525-9155; nutrisourcepetfoods.com	\$2.20	29, 17 GF	25 both, 4 meal	Min. 22% - 32% protein Min. 8% - 21% fat	NutriSource offers many animal protein combinations in grain-containing and grain-free varieties.
NUTRAM Elmira, ON; (844) 234-2464; nutram.com	\$3.07	15, 6 GF	Both	Min. 22.5% - 36% protein Min. 9% - 17% fat	Not yet widely available in the U.S. Nutram states optimum absorption is its goal.
NUTRIENCE Rolf C. Hagen, Montreal, QC (800) 554-2436; nutrience.ca	Can\$3.54	25, 14 GF	17 both, 3 meat, 5 meal	Min. 24% - 38% protein Min. 14% - 18% fat	Made in Canada. Only grain-free line is sold in the U.S. Subzero line contains nuggets of freeze-dried meat. Infusion is infused with freeze-dried chicken liver.
Mansfield, MA; nutrience.com	US\$3.61	6 GF	5 both, 1 meal	Min. 38% protein Min. 18% fat	

PRODUCT NAME Company Information	Average Price/lb.	# Varieties, # Grain-Free	Meat, Meal, or Both?	Range of Protein Content Range of Fat Content	Notes
OPEN FARM Toronto, ON (833) 399-3403; openfarmpet.com	\$3.40	5 GF	Both	Min. 30% - 31% protein Min. 14% fat	All food-source animals are third-party certified as humanely raised and grass-fed/free-range; all fish is wild-caught. Sources of each ingredient are on website.
ORGANIX Castor & Pollux (a div. of Nestlé Purina) Amarillo, TX; (800) 875-7518 castorpolluxpet.com	\$4.27	6, 4 GF	Both	Min. 25% - 26% protein Min. 10% - 16% fat	Organix foods are certified USDA Organic (>95% or more organic). Each food has fresh meat 1st and meat meal 2nd.
ORIEN Champion Petfoods, Auburn, KY (877) 939-0006; orijen.ca/us	U.S. \$3.68	8 GF	3 both, 5 meat	Min. 38% - 42% protein Min. 13% - 20% fat	Champion Petfoods now has manufacturing plants in Canada <i>and</i> the U.S. While the product names are the same, the products made in each country are formulated slightly differently, as they are made with locally sourced ingredients. Products made in the U.S. are sold in the U.S. Products made in Canada are sold in Canada and internationally. Note that some U.S. formulations include meat meals.
Champion Petfoods, Edmonton, AB (877) 939-0006; orijen.ca	Can. \$3.72	8 GF	Meat	Min. 38% - 42% protein Min. 13% - 20% fat	
PARTY ANIMAL West Hollywood, CA; (855) 727-8926 partyanimalpetfood.com	\$2.60	1	Both	Min. 23% protein Min. 14% fat	Organic chicken is the first ingredient, followed by chicken meal, then several organic whole grains.
PET CHEF EXPRESS New Westminster, BC (604) 916-2433; petchefexpress.ca	\$1.96	1	Meal	Min. 25% protein Min. 10% fat	Company offers home delivery in BC and retail sales in BC and ON.
PINNACLE Central Garden & Pet Walnut Creek, CA (866) 500-6286 pinnaclepet.com	\$2.60	5 GF	Both	Min. 25% - 29% protein Min. 10% - 15% fat	Four varieties start with fresh meat and have a meat meal second (5th has fresh eat first and meat meal 5th). Sold only in independent pet supply stores.
PRECISE Precise Pet Products, St. Helena, CA (888) 477-3247; precisepet.com	\$1.95	15, 2 GF	5 both, 10 meal	Min. 23% - 32% protein Min. 7% - 20% fat	Precise Naturals is the economy line. Precise Holistic foods contain meat <i>and</i> meat meals.
PRISTINE Castor & Pollux (a div. of Nestlé Purina), Amarillo, TX; (800) 875-7518 castorpolluxpet.com	\$4.11	8 GF	Both	Min. 28% - 34% protein Min. 15% - 16% fat	All C&P foods have fresh meat 1st and meat meal 2nd. Pristine uses wild-caught fish, grass-fed and/or free-range animals, and many organic ingredients.
PROFESSIONAL+ Diamond Pet Foods, Meta, MO (800) 342-4808 professionalpetfood.com	\$1.14	4 GF	Both	Min. 21% - 26% protein Min. 10% - 15% fat	All varieties start with meat and meat meal, then grain-free carb sources: peas, lentils, sweet potatoes, fava beans.
PURE VITA NutriSource (a div of KLN Family Brands) Perham, MN; (800) 525-9155; purevitapetfoods.com	\$3.26	10, 7 GF	Both	Min. 24% - 28% protein Min. 13% - 16% fat	Each PureVita food contains a single source of animal protein.
SIMPLE Wellpet, Tewksbury, MA (800) 225-0904; wellpet.com	\$2.52	6, 4 GF	5 both, 1 meat	Min. 21% - 29% protein Min. 8% - 14% fat	Simple is a limited-ingredient line.
SPORT DOG FOOD Ronkonkoma, NY (631) 662-2185; sportdogfood.com	\$2.14	11, 5 GF	Meal	Min. 26% - 305% protein Min. 14% - 22% fat	Baked foods. No peas! coated with "proprietary blend of salmon oil, herring oil, probiotics and freeze-dried proteins..." Direct shipping available.
STELLA AND CHEWY'S Oak Creek, WI (888) 477-8977 X 100; stellaandchewys.com	\$3.40	11 GF	Both	Min. 31% - 36% protein Min. 14% - 16% fat	Raw Coated Kibble is a grain-free baked food coated with freeze-dried raw meat. Raw Blend Kibble is the same, with freeze-dried meat nuggets mixed in.

PRODUCT NAME Company Information	Average Price/lb.	# Varieties, # Grain-Free	Meat, Meal, or Both?	Range of Protein Content Range of Fat Content	Notes
SUMMIT Petcurean, Abbotsford, Canada (866) 864-6112; petcurean.com	Can \$1.82	4	Meal	Min. 21% - 28% protein Min. 9% - 17% fat	Summit line is made with meat meals and sold only in Canada.
TASTE OF THE WILD Diamond; Meta, MO; (800) 442-0402 tasteofthewildpetfood.com	\$1.80	12 GF	9 both, 3 meat	Min. 25% - 32% protein Min. 15% - 18% fat	Most varieties have meat as first ingredient and meat meal second. Taste of the Wild Prey line are limited-ingredient foods.
TENDER AND TRUE Omaha, NE (877) 616-4455; tenderandtruepet.com	\$3.49	6, 4 GF	Both	Min. 26% - 30% protein Min. 16% - 17% fat	All foods are USDA Organic and all animal ingredients are certified as humanely raised or sustainable seafood.
THREE DOG BAKERY Kansas City, MO (800) 487-3287; threedog.com	\$2.25	4	Both	Min. 18% - 26% protein Min. 5% - 15% fat	Baked foods, all of which feature a meat as the first ingredient; meat meals follow in all but the "healthy weight" variety.
TIKI DOG Tiki Pets, Chesterfield, MO (866) 821-8562; tikipets.com	\$3.42	5 GF	Both	Min. 26% - 30% protein Min. 16% fat	Baked foods formulated for small dogs. Comes in a small kibble size and in small bags – the largest bag size available is 10 pounds.
TRUFOODS Wellpet, Tewksbury, MA (800) 225-0904; wellpet.com	\$4.63	5 GF	Meat	Min. 24% - 31% protein Min. 14% - 18% fat	Trufoods are baked and contain muscle and organ meats, and well as plant protein sources.
TUSCAN NATURAL Pyramid Pet Products, Las Vegas, NV (888) 408-0895; tuscannatural.com	\$2.39	5, 1 GF	2 both, 1 meat, 2 meal	Min. 24% - 35% protein Min. 12% - 20% fat	Simply Pure line has one animal protein source each (chicken, fish, or lamb). Harvest uses turkey & chicken. Carne is a grain-free food with a high meat inclusion.
ULTRA HOLISTIC Nutro (a div. of Mars) Franklin, TN; (800) 833-5330 nutro.com/natural-dog-food/ultra	\$2.97	13, 4 GF	Both	Min. 23% - 30% protein Min. 10% - 16% fat	Ultraholistic foods all contain chicken, chicken meal, lamb meal, and salmon meal. They also contain some grain fractions (rice bran, brewers rice) and plant proteins.
ULTRAMIX Castor & Pollux (a div. of Nestlé Purina), Amarillo, TX; (800) 875-7518 castorpolluxpet.com	\$2.81	4, 3 GF	Both	Min. 25% - 38% protein Min. 15% - 17% fat	All foods have fresh meat 1st and meat meal 2nd and contain many whole ingredients.
VERUS Abingdon, MD (888) 828-3787; veruspetfoods.com	\$3.25	8, 3 GF	3 both, 5 meal	Min. 22% - 26% protein Min. 8% - 15% fat	Verus discloses ingredient sources, such as chicken from cage-free birds in West Virginia, and uses EU-certified manufacturing.
WELLNESS COMPLETE HEALTH Wellpet, Tewksbury, MA (800) 225-0904; wellpet.com	\$2.62	20, 6 GF	Both	Min. 22% - 32% protein Min. 10% - 18% fat	Complete Health foods provide "whole food nutrition."
WERUVA Natick, MA (800) 776-5262; weruva.com	\$3.28	6, 5 GF	Both	Min. 34% - 39% protein Min. 13% - 14% fat	All six varieties are potato-free. "Noble grains" used in two. Company says Caloric Melody line is made using 70% animal ingredients; Caloric Harmony line 80%.
WHOLE EARTH FARMS Merrick Pet Care, a div. of Nestlé Purina, Amarillo, TX (800) 323-3353; feedgoodness.com	\$2.23	11, 9 GF	Both	Min. 24% - 26% protein Min. 8% - 13% fat	These foods all have meat meals as the first one or two ingredients, and a meat appearing 5th or 6th on the label. They all contain probiotics and prebiotics.
WILD CALLING Lake St. Louis, MO (855) 381-5888; wildcalling.com	\$3.05	3 GF	Both	Min. 23% - 25% protein Min. 14% - 18% fat	Company was purchased by Barkstrong LLC in May 2018 and the offerings were severely reduced. All foods contain a single species of animal protein.
ZIGNATURE Pets Global, Valencia, CA (888) 897-7207; zignature.com	\$2.71	11 GF	Both	Min. 26% - 32% protein Min. 14% - 16% fat	The offerings from Zignature are particularly helpful for feeding dogs with known food allergies, since 10 of its 11 foods contain a single species of animal protein.



BEHAVIOR

Understanding Canine Compulsive Disorder

This is more than just a high-energy dog.

When I first noticed Shadow's eyes staring into the pond, I thought she saw something in the water. It looked like her eyes were following fish swimming, except there were no fish in our little pond.

I looked closer to see if perhaps there were some water bugs. Then I stood back and watched my new pup. Her eyes were following the ripples, or perhaps the light sparkling off of the ripples. I watched her eyes go from fixation to glazing over into an almost trance-like state. "Oh, no," I thought. "It can't be!" I tried to distract her, which worked for a minute, but then she was right back at the pond, chasing the sparkles on the water. This incident confirmed my suspicions: My new dog was showing strong signs of canine compulsive disorder.

Also called compulsive behavior disorder, this is a mental health disorder "characterized by the excessive performance of repetitive behaviors that don't serve any apparent purpose," explains Dr. Jennifer Summerfield, a

veterinarian and professional dog trainer who specializes in treating behavior problems. Common compulsive behaviors include spinning or tail chasing, licking or self-mutilation, flank sucking, chasing lights or shadows, fly snapping, or hallucinatory prey chasing/pouncing behavior. It is considered similar to obsessive-compulsive behavior (OCD) in humans.

WHAT'S NORMAL?

Lots of herding dogs and other types of "high drive" dogs have what I like to call the "do it again, do it again, do it again" trait – doing behaviors over and over again. But this isn't necessarily canine compulsive disorder.

Dr. Summerfield says that some repetitive, apparently non-functional behaviors *can* be perfectly benign. Many dogs spin in circles when they're excited or will happily retrieve a ball as long as you continue to throw it. Lots of dogs will fixate on squirrels or birds in what many consider to be an obsessive manner. Dogs may also pace back and forth in the

Once a dog with compulsive behavior disorder starts to exhibit a new repetitive behavior, it is difficult to stop him from practicing it, even when he becomes dizzy, exhausted, or overheated.



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yard when they're bored or spend a lot of time carefully licking their paws during downtime in the evening.

In contrast, "a behavior like this crosses the line and becomes a problem when it begins to interfere with other normal activities like eating and drinking, resting, playing, and being social with family members," Dr. Summerfield says. "In many cases, it may also be difficult to distract the dog or get him to stop once he's started to engage in the behavior."

This was why the incident with my dog by the pond clinched my suspicions. Prior to this, I wasn't sure if what I was seeing was simply an extremely high-energy herding-dog puppy, or one who was exhibiting signs of a serious problem. Shadow would incessantly chase her tail and sometimes would attack her rear foot as if it weren't attached to her body. And she was in constant motion – always moving and having a difficult time settling even when she was clearly exhausted. But the fact that distracting her from these activities worked for only a few brief moments brought home that this was much more than an over-the-top puppy.

In the 20 years I've been working with dogs, including those who exhibit problematic behavior, I had seen compulsive behaviors to this extent only a handful of times.

IT'S A BRAIN THING

According to Dr. Summerfield, studies have shown that abnormal repetitive behaviors (including the clinical disorder of OCD in human patients) are associated with abnormalities in a particular area of the brain. These areas are called the cortico-striatal-thalamic-cortical (CSTC) loop.

Essentially, this is a circuit connecting the cerebral cortex to deeper structures in the brain, those that are involved in information processing and in controlling motor function. There is a pair of complementary signaling circuits called the direct and indirect pathways that form a part of the CSTC loop. The direct pathway is involved in initiating or enhancing movement,

while the indirect pathway stops or inhibits movement.

"When it comes to starting and stopping behaviors, you can think of the direct pathway as the gas pedal and the indirect pathway as the brake," Dr. Summerfield says. "In patients with compulsive behavior disorders, these pathways are out of balance – the direct pathway becomes more active, and the indirect pathway becomes less active. As a result, the affected animal (or human patient) may get 'stuck' in repeated loops of behavior and have a hard time stopping what they're doing."

Dr. Summerfield says, "Of course, this is almost certainly not the whole story! The brain is incredibly complex. There is some evidence that different types of compulsive behaviors (spinning or tail chasing vs. licking or sucking objects vs. hallucinatory prey chasing or fly snapping, etc.) may involve slightly different mechanisms and changes in the activity of different neurotransmitters. So there's a lot more to learn here!"

WHAT CAUSES THE BRAIN TO MALFUNCTION?

Studies indicate that there are likely a variety of causes and contributors to repetitive, compulsive behaviors in dogs, including medical issues. So much is still unknown, but here are some of the more widely considered causes:

■ **Genetics.** While any breed may develop a compulsive disorder, there are certain compulsive behaviors that seem to be more common to specific breeds. For example, Dobermans may have a higher risk of flank sucking, Bull Terriers are more likely to spin or tail chase, and Border Collies are more likely to stare at shadows and/or flickering lights.

■ **Response to stress.** Animals (including dogs) that are living in situations where they cannot express normal behaviors, such as those living in kennels for long periods of time, can develop stereotypic behaviors such as pacing, circling, or spinning.

■ **Response to arousal or frustration.** Different from animals who are living in poor conditions or who are under stress, some repetitive behaviors seem to be triggered by extreme arousal or frustration.

Dogs who become light-obsessed after playing with laser pointers may fall into this category. The theory is that when a dog chases a laser pointer, he cannot complete the normal predatory sequence by actually catching or grabbing the "prey" in the same way he can with a ball or toy, or a real rabbit or squirrel. This can cause an excessive amount of frustration and can cause the dog to constantly search or wait for the light to appear.

■ **Medical problems.** Sometimes repetitive behaviors are not caused by a compulsive behavior disorder, but are instead the result of a different underlying medical problem.

Spinning or tail chasing may be caused by things such as anal gland problems, pinched nerves, or spinal problems. Dogs who compulsively lick or chew at certain parts of their body may have allergies, a skin infection, orthopedic pain, or other physical sources of discomfort. Both spinning and fly snapping can be neurologic, with a variety of possible underlying causes such as brain tumors, seizure disorders, or hydrocephalus (buildup of fluid in the brain cavities).

In addition, a medical cause such as an allergy may initially trigger a behavior that then develops into a compulsive disorder; conversely, a compulsive behavior such as licking or flank sucking may cause a physical problem such as pain or an infection.

TIME TO CALL THE PROS...

Unfortunately, the underlying cause of compulsive issues is not always easy to diagnose. This is why a trip to veterinarian or veterinary behaviorist (see dacvb.org) is a good place to start.

If the veterinarian suspects medical causes, says Dr. Summerfield, then he or she may recommend diagnostic testing or imaging studies. If testing is not feasible, in some cases, a trial

course of a steroid or pain medication might be used to see if there is any response. If the behavior improves on these medications, this is a strong indication that there is an underlying physical problem rather than “just” a compulsive behavior disorder.

Helping dogs with compulsive behavior disorder live a more normal life takes a holistic approach – generally a combination of lifestyle changes, behavior modification, and medication is needed. A dog’s treatment plan might include:

1 AVOIDING KNOWN TRIGGERS. As much as possible, it is important to avoid the triggers for the compulsive behaviors. For example, for one dog avoiding triggers meant not going on walks at night when headlights flashing on fencing would trigger light chasing. Avoiding triggers may be short term until medication and/or behavior modification kick in, or it might be ongoing.

2 INTERRUPTING AND REDIRECTING IF THE COMPULSIVE BEHAVIOR OCCURS. According to Dr. Summerfield, interrupting the behavior should always be done in a neutral manner and the dog should be redirected to some other activity.

This sounds pretty simple, but it can sometimes be very difficult to get a dog who is doing a repetitive behavior to stop. Moving the dog into another room or even crating them with a meaty bone or food-stuffed Kong can sometimes help.

3 TEACHING AN ALTERNATIVE RESPONSE. Sometimes the trigger is something that can’t be avoided, but you may be able to teach your dog to do something other than the repetitive behavior.

If your dog spins when frustrated, for example, you may have success with teaching him to run into his crate or go grab a toy instead. For a dog who is triggered by overexcitement or anxiety, teaching him to settle on a mat and then reinforcing it throughout the day so he is less over-all excitable can help.

4 CREATING A STRUCTURED DAILY ROUTINE. Because predictability lowers stress, doing specific things at set times can be very helpful for dogs who are anxious. In addition, compulsive behaviors are sometimes triggered by frustration, and routine can help eliminate frustration.

5 INCREASING EXERCISE. Increasing exercise may help, especially if the repetitive behavior issues stem from boredom or frustration. Exercise also increases serotonin and other chemicals in the brain, which may provide some benefit.

6 PROVIDING BRAIN STIMULATION. Training exercises using positive reinforcement techniques may help dogs who have anxiety that is being relieved by the compulsions.

Puzzle toys and food games may help engage a dog’s brain so that he is less likely to engage in the repetitive behavior. Giving your dog outlets for normal dog behavior, such as allowing her to sniff on walks or play with dog pals, also can help some dogs.

7 TALKING WITH YOUR VETERINARIAN OR A VETERINARY BEHAVIORIST ABOUT MEDICATION. Many dogs with a compulsive behavior disorder will benefit from medication.

When Shadow was first diagnosed, I wanted to see if we could make headway without medication, but my veterinarian cautioned us against waiting. Compulsive behaviors tend to get worse over time, she said, and the longer the problem goes on the more difficult it is to modify. On our veterinarian’s recommendation, we started Shadow on fluoxetine (Prozac) and were amazed at the positive benefits in just a few short weeks.

WILL IT GET BETTER?

Compulsive behavior disorders are tricky to diagnose, work with, and live with. “In many cases (though not always, unfortunately) the problem can be significantly improved with diligent management, training, and medication,” says Dr. Summerfield.

“However, most dogs with a history of compulsive behavior issues will always have this tendency to some degree, so in most cases some degree of continued management will be needed for the life of the dog.” Dr. Summerfield says that unfortunately, even with intensive management and treatment, some dogs simply don’t get better.

The prognosis may depend on several factors, including:

- How quickly the problem is properly identified and addressed.
- How easy or difficult it is to resolve the underlying issue or avoid the triggers.
- How easy or difficult it is for the dog’s people to follow the recommended behavior plan.
- How well the dog responds to behavior medications.

BE PERSISTENT

We have been very fortunate with Shadow. We identified that there was a problem quickly, and we had a great veterinary team to help us take the steps needed. Shadow responded to medication and to behavior modification, and we were able to make some lifestyle changes that helped, too. Within a few months of starting treatment, she showed signs of improvement.

Now, a little over a year later, Shadow seldom engages in compulsive behaviors, and she has become a pretty normal high-energy adolescent herding dog. 🐾

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Special thanks to Dr. Jennifer Summerfield for her help with this article. Dr. Summerfield is the author of Train Your Dog Now! Your Instant Training Handbook, from Basic Commands to Behavior Fixes, and Dr. Jen’s Dog Blog, www.drjensdogblog.com.



Mange, Mange, Go Away

Mange has long been regarded as a scourge for dogs, and afflicted dogs are sometimes euthanized because of it. But the condition has never been easier to treat.

There may be no other canine malady that seems to inspire as much misinformation as canine “mange.” Internet searches often return pages that blame it on lice (wrong) as often as mites (right). Ask an older person about it and he may tell you to use a dangerous and ineffective treatment such as dousing the poor dog in used motor oil (a great way to sicken or even kill the dog). But the condition isn’t a mystery, and its treatment has never been easier. Let’s clear up the misinformation!

The term “mangy” is a general way to describe a dog who is itchy, missing hair, and has scabby, unhealthy-looking skin. Mange generally refers to one of two conditions: demodectic or sarcoptic mange, caused by two different species of mites.

DEMODECTIC MANGE

There are two types of *Demodex* mites that can afflict dogs: *D. canis* and *D. injai*; the former is much more prevalent. The mites are always present on dogs in low numbers

as normal fauna. The skin is colonized with mites at birth, so puppies “catch” it from their mothers; it is not contagious between dogs otherwise. In a dog with a healthy immune system, the mites do not cause problems.

So, one wonders, if *Demodex* mites are a common and usually benign inhabitant of a dog’s skin, how does mange develop? It’s not a simple question. There are four ways to divide infestations: by age group (juvenile and adult onset) and by severity (localized and generalized).

Generalized demodicosis happens when the immune system becomes suppressed and the mites proliferate out of control. This proliferation may lead to a sense of itching, causing a dog to scratch and self-traumatize. The scratching leads to breaks in the healthy skin barriers and allows bacterial and yeast infections to occur, which leads to more itching and discomfort, more self-trauma, and worsening infection and skin disease. It is a vicious cycle that can be difficult to stop.

A dog with generalized demodicosis has



Left: This puppy was brought to an animal shelter with a severe case of generalized juvenile demodicosis.

Right: The same puppy five weeks later. She was given a single dose of an oral isoxazoline drug (Credelio) and treatment for the bacterial and yeast infections brought on by self-trauma to her skin.

involvement of more than one site, an infestation that spreads, lasts for more than one to two months, or involves all four feet. The symptoms are hair loss, follicular casting (a yellowish debris is matted around the base of hairs), red bumps (called papules), and variable itching. West Highland White Terriers, Staffordshire Terriers, Shar-Pei, English Bulldogs, Boston Terriers, and several other breeds seem predisposed.

Generalized demodicosis can occur with both juveniles and adults. In puppies, there tends to be an underlying, inborn problem with the immune system. These puppies also will be susceptible to other illnesses like viral and bacterial infections.

In older dogs, another condition could trigger demodicosis. These triggers can include diseases like hypothyroidism and Cushing's. Demodicosis can also appear if a dog has been on long-term steroids and has a weakened immune system.

In the case of generalized demodicosis, a full veterinary workup should be conducted to evaluate the dog for underlying triggers. This will include bloodwork, including a thyroid level, a urinalysis, and possibly x-rays of the chest and abdomen (in older dogs).

Localized demodicosis is the other possibility. These are small, well-circumscribed circular hair-loss lesions often seen on young puppies. Sometimes they are seen around the

eyes. They do not tend to be itchy. These can clear on their own and often do not pose a problem. No one knows exactly why some puppies have this and others do not. It is rarer to see the localized form in adults.

DIAGNOSIS OF DEMODECTIC MANGE

The beginning of any diagnosis is a good history and physical examination. Your veterinarian will likely ask general questions about diet, exercise, vaccine history, as well as specific questions about the lesions. How long have they been present? Have they changed – smaller or larger? Do they bother your dog? Any known injuries? After a detailed history, your veterinarian will do a physical exam. This should include a nose-to-tail assessment including vitals and weight.

Once this is accomplished, the vet will gather samples. These will usually include a skin scrape, tape preparation, and impression smears.

In the first, a dull scalpel blade is used to scrape the edges of the lesions until a thin scrim of blood is noted. It is important to get a little bit of blood, as the mites can be deep in the hair follicles. This sample will be placed on a microscope slide with mineral oil and examined under a microscope at low magnification power.

The mites are usually easily visible. *Demodex* mites are long and cigar-shaped with six legs.

Your veterinarian should also place a strip of clear acetate tape over the lesions and press microscope slides directly onto the affected areas. These samples are stained and examined at high power. She will also look for evidence of secondary bacterial and/or yeast infections that must also be treated.

SARCOPTIC MANGE

Unlike *Demodex*, *Sarcoptes* is not normally found on dogs. This is a contagious mite that spreads from dog to dog. It can also spread from dogs to people, though it will not live long on humans. The most common *Sarcoptes* mite that afflicts dogs is *S. scabiei*.

Sarcoptic mange (often called scabies) is intensely itchy and uncomfortable for dogs. Dogs will dig and scratch at themselves, particularly on the sparsely haired areas of the body. These dogs are often in misery. The skin will be red and crusty around the elbows, base of the ears, belly, and outside of the knee. Secondary skin infections are extremely common. As with *Demodex*, in some cases, the skin infections are so bad that the lymph nodes become enlarged, and the dog may become depressed, lethargic, develop a fever, and lose appetite. No breed seems particularly predisposed.

Scabies may also be diagnosed if the humans living in the house with the affected dog(s) start itching! While canine *Sarcoptes* lives only transiently on humans, it can cause intense itching and red papules on the skin. These show up along the waistline, neck, and arms. It can occur within 24 hours of exposure and last for up to three weeks. Usually within one to two weeks, the lesions will resolve, as



The pup on the right is the same pup as the one pictured on the previous page; the others are some of her littermates, who were also infected with Demodex. This photo was taken a week after their initial treatment with an isoxazoline drug; they were also receiving an oral antibiotic for their bacterial skin infections and another medication for their fungal infections. Their skin had stopped crusting, and they no longer itched.

long as the dog is treated successfully and re-exposure does not occur.

DIAGNOSIS OF SARCOPTIC MANGE

The tests are the same as for *Demodex*, but *Sarcoptes* mites live very deep and can be difficult to find. Under the microscope, *Sarcoptes* mites are fat, round mites with six legs on the juveniles and eight on the adults.

Your veterinarian may scrape in four or five places in an attempt to locate just one mite and will also look for mite eggs. The absence of mites on a skin scrape does not rule out scabies. If your veterinarian is very suspicious, and the skin scrape is negative, she may scratch behind your dog's ears. A response of thumping of the leg on the same side is called a "positive pinna-pedal reflex." While it is not specific for scabies, it is one sign that, paired with the other symptoms mentioned above, makes scabies a likely diagnosis.

WHAT TO DO

Until fairly recently, treatment for both types of mite infestations was extensive and involved repeated use of lime-sulfur shampoos and/or dips (every five to seven days, for as long as it takes for the lesions to heal) and ivermectin. The dips are effective treatments, but they are time-consuming, hideously smelly, and carry other risks.

These treatments have been largely supplanted by a new class of chemicals called isoxazoline. These include the oral medications sold under the names Bravecto, Credelio, NexGard, and Simparica; Bravecto is also available as a topical "spot-on" treatment. These medications were all developed to treat infestations of fleas and ticks, but have proven to be so effective at killing mites, that most veterinarians are now using them "off-label" as their go-to treatment for mites. On-label use is expected within the next year.

If the affected dog is young and the lesions are minor, a one-time treatment with one of the isoxazoline drugs will likely be sufficient. In

Concerns about isoxazolines

You may have recently seen FDA warnings about the isoxazoline drugs. There have been reports of serious adverse effects, such as seizures, that may result from their use. The drugs are safe to use in the vast majority of patients, but the cases of adverse effects cannot and should not be dismissed.

As with any medication, it is important to review your dog's medical history with your veterinarian. If there is history of neurological disease or seizures, the risks, benefits, and disadvantages of an isoxazoline drug should be weighed against those of different medications, such as (in this case) lime-sulfur dips and ivermectin.

There are many alternatives to these drugs for flea and tick control – and many pose less-serious potential adverse effects. But nothing beats the efficacy of the isoxazoline drugs for treating the mites that cause canine mange. Dog owners should be advised of the risks and advantages of using these drugs as well as the older alternatives.

cases of generalized demodicosis, the dog may require another dose or two, given a month apart.

While the primary treatment is focused on getting rid of the mite overgrowth, secondary skin infections must also be treated. These infections can be bacterial, fungal (yeast), or a combination of both. The samples your veterinarian took will help determine what treatment is needed.

Antibiotic resistance in veterinary medicine is becoming a significant problem. Many times, skin infections (yeast and bacterial both) can be treated with topical medications before oral medications. There are many different products such as mousses, wipes, and shampoos on the market. Type and availability will vary among veterinary offices. Topical therapy should be tried first to avoid encouraging antibiotic resistance. This will be done in conjunction with treatment of the mites with an isoxazoline and/or lime-sulfur dips.

If topical treatment fails for the infections (called pyoderma), oral therapy is next. This can include a combination of antibiotics like the cephalosporin class and oral antifungal drugs such as ketoconazole.

If first-line oral therapies do not treat the skin infections, then your veterinarian will likely recommend a culture of the skin to determine which antibiotic is most appropriate. This is becoming increasingly common as

overuse of antibiotics is rampant in both human and veterinary medicine.

Once the mites begin to die (particularly with *Sarcoptes*), the itching may dramatically intensify. Using steroids (such as prednisone) in dogs with mite infestations is not a great idea, as this suppresses the immune system further. If the itching is intolerable and causing a dog to severely self-traumatize, then a very low dose of prednisone may be prescribed for a short course.

Since sarcoptic mange is contagious, all dogs who came into contact with an affected dog should be treated for the mites.

Your veterinarian may repeat skin scrapings after treatment, to make sure the mite overgrowth has been controlled, but given the effectiveness of the isoxazolines, this isn't usually done anymore. Improvement in clinical symptoms is generally proof of successful treatment.

Mites are host-specific and do not live off of their preferred hosts for long. Still, it's never a bad idea to wash your dog's bedding, especially if she has skin infections and itching. It's also a good approach to wash your dog's combs, brushes, and collars. 🐾

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Nuzzle Up to Muzzles

Why and how every dog should learn to love wearing a muzzle.

A significant percentage of my clients come to see me because they have dogs with aggressive behaviors. Often, they will ask me if their dogs should wear a muzzle. My answer is almost always, “Good idea!” In each case, however, we have a serious discussion about the reason why the client’s wants to use a muzzle, when and how the dog’s aggressive behavior presents, and – this is the clincher – whether the client is willing and able to take the time to condition her dog to *love* the muzzle before starting to use it.

WHY AND WHEN

The “why” seems obvious: You use a muzzle to prevent your dog from biting someone – human or other animal. Duh! But there are a few certain circumstances where it is appropriate to use a muzzle and many others where it is definitely *not*.

Let’s start with the situations when it is definitely not appropriate to muzzle your dog.

It is *not ever* appropriate to muzzle your dog so you can put her over-threshold in an avoidable situation. Here are some examples:

■ “Oh gee, the grandkids are coming over and Muffy might bite them. Let’s muzzle her so the kids can have fun with her and she can’t bite them.” NO! Instead, either use scrupulous management to keep her and the kids safe from each other while the young’uns are visiting, send her to a friend’s house for the day, or perhaps board her for a longer grandkid-visit.

■ “My friend wants to take her dog to the dog park, and she wants us to come with her, but Rocky, who loves my friend’s dog, might bite the other dogs at the park. Let’s muzzle him and take him along.” NO! Rocky doesn’t get to go to the dog park. *Ever*.



■ “Chomper guards his food bowl. Let’s muzzle him and show him we can take his bowl away from him because he needs to learn that humans are the boss.” NO, NOT EVER!

Here are some appropriate times when a muzzle could or should be used:

■ **Emergencies.** Any animal in pain may bite. If your dog is injured and must be moved or handled it is strongly advised to muzzle her. This, of course, will be easier and less stressful for everyone during an already stressful event if you have taken the time to convince her that a muzzle is wonderful.

■ **Procedures.** When your dog must be handled or examined by your veterinarian for an unexpected condition, or treated at home for an injury, and there’s a good likelihood she will bite during the procedure, she will need to be muzzled for everyone’s safety.

Muzzles should be used as needed for

This former “streetie” (street dog in Mumbai, India) has been conditioned by her owner to wear a muzzle happily; for her, it simply signals that treats are on the way. “I condition all of my dogs to happily and comfortably wear a muzzle in case they ever need to wear one,” says owner Aditi Joshi.

emergency or unavoidable procedures. If your dog needs to be muzzled for *routine* care or grooming, you have some counter-conditioning work to do to help her learn to love (or at least happily tolerate) these events! (See “Fear-Free Vet Visits,” WDJ December 2015.)

Note: While veterinarians often use “sleeve” muzzles, these are not recommended, as they inhibit your dog’s ability to pant and take treats, and they can be very stressful for dogs. Most veterinarians will allow you to use your own good-quality muzzle.

■ **Public safety.** A muzzle is an appropriate tool if you know that your dog might try to bite a toddler who rushes up to hug her, a well-meaning dog person who insists that “all dogs love me,” or an off-leash dog who bounces up to say hi.

Even if your dog is on a leash, you will still be responsible (and she will be in big trouble) if she bites someone who invades her space. Muzzling her when you take her out in public keeps everyone safe (and her out of trouble!). It also tends to keep people away, as they assume (often correctly) that a dog who must wear a muzzle would prefer not to be social.

Of course, you will need to fiercely protect her to prevent people and other dogs from interacting with her, even if she is muzzled; the muzzle itself is just a backup.

■ **In a behavior modification program.** A muzzle can be a useful tool in situations where, based on all the behavior-modification work you’ve been doing, you’re 99.9 percent sure it’s going to go okay, but you’d like a little extra insurance.

Say you’ve been working with dog-aggression issues between your own canine family members, or you’ve done a ton of counter-conditioning with your dog’s dog-reactive behavior, and you think you’re ready to let her interact with other dogs. Perhaps she’s been fearfully aggressive with your grandchild in the past and you’ve worked your tail off using

the CAT procedure (Constructional Aggression Treatment, see “Build Better Behavior,” WDJ May 2008) to convince her that she *loves* the toddler, and you think it’s time to let them meet.

This is the ideal time and place for your dog to wear her well-loved muzzle. Not only does it prevent that tiny 0.1 percent chance of a tragic “Oops,” but it also helps you relax, so that your stress about that first interaction doesn’t add to your dog’s level of stress. (Remember, stress causes aggression! See “A New Threshold,” WDJ October 2010.)

10 TIPS FOR TEACHING YOUR DOG TO LOVE A MUZZLE

All of the “could or should” situations are predicated on the assumption that you have taken the time to teach your dog to love her muzzle. You will use classical conditioning – giving your dog a wonderful, happy association with her muzzle, to make any muzzling experiences as positive as possible. Here’s how:

1 PURCHASE A TOP-QUALITY BASKET MUZZLE (see “Muzzles We Love,” next page). Good basket muzzles allow your dog to breathe, pant, eat, and drink, which reduces muzzle-related stress and prevents overheating.

Measure your dog to ensure a perfect fit; most muzzle websites include a sizing chart that will help you take proper measurements and order the proper size. The best sites will custom-fit your dog’s muzzle. For additional information about how to find the right muzzle for your dog, see tinyurl.com/WDJ-muzzleup.

2 SHOW YOUR DOG THE MUZZLE. Don’t even try to put it on yet! Just hold it up, then feed your dog a yummy treat from the other hand. Hide your treat hand and muzzle behind your back, then show it to her again, and feed.

Repeat this step until, when you bring the muzzle out from behind your back, her eyes light up and she

looks for the treat. She now thinks muzzle = yummy stuff!

3 FEED TREATS IN THE MUZZLE. You can push high-value treats through the front of the muzzle or use squeeze cheese through the straps; the important part here is that your dog puts her nose into the muzzle voluntarily, you do not push the muzzle onto her nose. If she backs away, don’t follow her with the muzzle, wait for her to come back to you.

4 INCREASE THE DURATION. When your dog voluntarily offers to put her nose into the muzzle (ideally shoves her nose into the muzzle), gradually increase duration by feeding, pausing, then feeding again several times while she keeps her nose in the muzzle.

5 PLAY WITH THE STRAPS. Now, while holding the muzzle with one hand and occasionally feeding treats, play with the straps a little behind your dog’s head as if you are getting ready to buckle it.

6 CONDITION YOUR DOG TO THE SOUND OF THE SNAP. If your muzzle has a snap rather than a buckle, and your dog might startle at the sound of the snap, take time to condition her to the sound separately from putting the muzzle on. Hold it up so she can see it, snap the snap in place, and feed her a treat – until the sound of the snap makes her eyes light up and she looks for the treat.

7 CLOSE THE SNAP OR BUCKLE BRIEFLY. This can be tricky. For starters, how do you keep feeding treats while using two hands to close the snap or buckle?

Perhaps you have a partner who can help by feeding the treats while you manipulate the hardware. If not, you can smear peanut butter or squeeze cheese on your refrigerator door or on a vinyl floor to keep your dog happily occupied while you snap or buckle.

Alternatively, try the Chase ‘n

Chomp Sticky Bone, which can suction onto your floor, wall, or refrigerator door. (See tinyurl.com/stickybone.)

8 LEAVE THE MUZZLE ON FOR LONGER PERIODS. Gradually leave the muzzle on your dog for longer periods, making sure to keep her happy (feed treats!) while it's on. Over time you can reduce the frequency of treats, but always be ready to treat occasionally to keep it happy for her.

9 REFRESH THE POSITIVE ASSOCIATION. Be sure to do "happy muzzle" sessions routinely, so she doesn't only wear the muzzle for bad/scary times. Once you have conditioned her to love her muzzle, if she wears it only for trips to the vet's office, her association will change from positive to negative and you'll have to start all over again. A good rule of thumb: Give your dog at least 10 happy muzzle experiences for every stressful one.

10 WATCH THIS VIDEO. This YouTube video by superb trainer Chirag Patel (of Domesticated Manners in London, United Kingdom), is an excellent tutorial for teaching your dog to love a muzzle: tinyurl.com/chirag-patel-muzzle.

Okay now, time to get to work! Check out our favorite muzzles, measure your dog, order one, and start convincing her that it's the best thing since sliced chicken! 🐾

Author Pat Miller, CBCC-KA, CPDT-KA, is WDJ's Training Editor. She lives in Fairplay, Maryland, site of her Peaceable Paws training center. Miller's newest book is Beware of the Dog: Positive Solutions for Aggressive Behavior in Dogs. See page 24 for contact and book purchasing details.

Muzzles We Love

We asked our trainer network to tell us about their favorite muzzles. We expected to hear about a variety of different muzzles, but there was overwhelming consensus about just two brands. Here are the two, and some of our trainers' comments about them:

THE BASKERVILLE ULTRA MUZZLE

The Baskerville Ultra Muzzle (see companyofanimals.us/brands/baskerville-muzzles) is widely known for security and comfort. The rubber material can actually be heated up and molded to better fit the shape of your dog's face. Here's what our trainers say:

- **Kelly Fahey, PMCT2, DogSmith of Hunterdon, Pittstown, NJ**
"The Baskerville muzzle is my go-to muzzle. It allows your dog to pant, drink, and eat. There are other basket-style muzzles on the market, but they don't seem to have a space to feed treats while working with your dog. I also like the extra strap that is on the Baskerville Muzzle. It attaches to the dog's collar for a more secure fit."



- **Jessica Miller, CPDT-KA, PMCT, CNWI, Go Pawsitive Dog Training, Clear Spring, MD**
"The Baskerville saved us when our house flooded. My dog Handel had to be carried across a knee deep river, lifted into a truck by a firefighter (whom he tried to bite), walked through a flooded town surrounded by other stressed-out people and children, stationed at a church for an hour when we couldn't get out, and then had to live at my mother's house for three days before we could find a new place to live. I was able to feed him, he could drink, I knew he wouldn't overheat, and I was sure it wouldn't come off or fail. If we didn't have his muzzle, almost all of that would have been impossible and I dread to think what could have happened. Plus, it was a nice light blue color that stood out against his dark fur, so that strangers could see he needed space."

- **Cindy Mauro, CPDT-KA, Cindy Mauro Dog Training, Northern NJ**
"I do a lot of work with dogs who need to be muzzled. My go-to is the Baskerville muzzle. The dog can easily eat treats, drink, pant, and bark with this muzzle on. With proper muzzle training, there is little fuss. 'Good things happen with the muzzle on.'"

THE BUMAS MUZZLE

The Bumaz Muzzle is made to order (see bumas.us). It can be customized with fewer or more straps (depending on your dog's anatomy and the level of security needed), and you can specify the color of each strap on the muzzle. These muzzles are very expensive, however. If we had a dog who needed to wear the muzzle often, it could be worth the expense, but it's not likely practical for a dog who only needed to wear a muzzle at the vet once or twice a year.

- **Cindy Mauro**
"The Bumaz muzzle is my top choice for flat-faced dogs. It comes in many custom colors, which makes it like wearing a nice pair of glasses. The colors tend to appear 'friendlier' on the dog."
- **Laura Dorfman CPDT-KA, PMCT1, Kona's Touch, Chicago, IL**
"The Bumaz offers a good custom fit for lots of differently shaped dog faces, and I like the colors too."



Photo by @lovenotrescue



What's ahead...

► Walk Off-Leash

Everything you need to know about your dog, and everything your dog needs to know, before you can relax and enjoy an off-leash hike.

► Reporting Adverse Effects

When a food, drug, or pesticide hurts your dog, it should be reported to the appropriate agency, so statistics can be compiled – and perhaps other injuries can be averted. Here is how.

► Is Kong Still King?

Many new food-puzzle/interactive products have come along since we proclaimed Kong toys the “best.”

► Distemper

Easily prevented, but still a threat.

► Can I See Your (Dog's) ID?

The most secure, visible, and easy-to-live-with ID tags for your dog.

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RESOURCES

BOOKS AND VIDEOS

WDJ Training Editor Pat Miller is author of many books on force-free, pain-free, fear-free training, including:

- *Do Over Dogs: Give Your Dog a Second Chance at a First Class Life*
- *How to Foster Dogs*
- *Play With Your Dog*
- *Positive Perspectives*

and her most recent:



All of these are available from wholedogjournal.com

The Encyclopedia of Natural Pet Care and *Natural Remedies for Dogs and Cats*, by WDJ contributor CJ Puotinen, are available from wholedogjournal.com

TRAINERS

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peaceablepaws.com

Group and private training, rally, behavior modification, workshops, intern and apprentice programs. Trainers can become “Pat Miller Certified Trainers” (PMCT) by successfully completing Pat’s Level 1 (Basic Dog Training and Behavior), Level 2 (Behavior Modification), and any third Peaceable Paws Academy Course.

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