

MISHNA ON FEEDING THE CHOW CHOW



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BREED SPECIFIC NUTRITION

USA President LB Johnson tasked the National Research Council (NRC) with the study of species specific nutritional requirements. Although the primary motivation may have been to grow bigger beef, they also published in 1974 a report titled "Minimum Nutrient Requirements of Dogs for Growth and Maintenance".

The expanded and revised "Nutrient Requirements of Dogs" published in 1985 found, in lay terms, that different breeds of dogs have different nutritional requirements depending on where and how the particular breed developed.

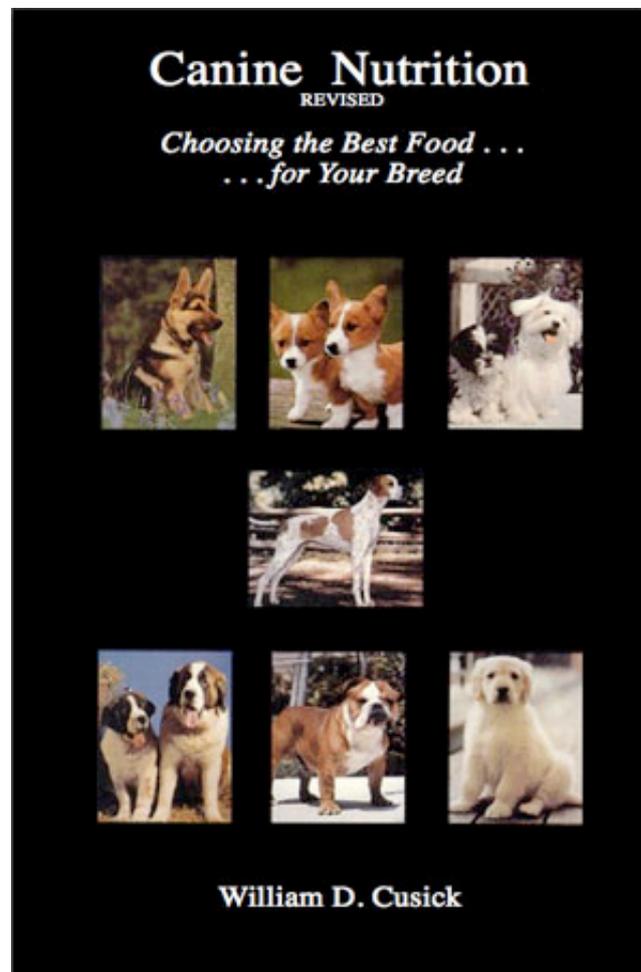
These reports are the source for all the modern day commercial designer "scientifically formulated" dog foods, and especially the more recent breed specific foods.

In 1997 William D Cusick wrote "Canine Nutrition - Choosing the Best Food for Your Breed", bringing these academic findings to the attention of the public, and verifying what had been anecdotal common knowledge amongst a long line of chowists.

The conclusions here presented, although quoting extensively from this eminent book, are from a variety of sources. This article must not be regarded as an accurate reflection of Mr Cusick's meanings or intentions.

Different breeds have developed to suit different environments and to serve different purposes. For instance, Arctic breeds have evolved thick double coats and high fat-to-protein nutritional adaption. Desert breeds have evolved a light, single coat to protect the skin, and high protein-to-fat nutritional adaptation. The older the breed and the longer it has remained within a particular environment, the more pronounced the differences in physical and physiological (including nutritional) expression are likely to be.

It is a fallacy to assume that all dogs share the nutritional requirements of a common, very distant, wolf ancestor. It is just as incorrect to assume that all dogs from China must share the same nutritional heritage. Geographically, China covers an immense area, the borders and cultures of which have shifted continuously across the millennia to include and exclude Tibet and Mongolia and even tracts of Siberia, India and Persia. Terrain extends from mountains to sea and includes highlands and lowlands, deserts and icelands.



Wrong again it is to assume that all dogs from a similar terrain must share the same nutritional requirements. As an example, says Mr Cusick:

"Consider this: The tallest mountain in the French Alps is Mont. Blanc, reaching 15,771 feet above sea level. The top of this mountain is lower than the average elevation (16,000 feet above sea level) for the Plateau Area of Tibet. The mountains of Tibet go up from this country's "lower" plateau's to an elevation of over 29,000 feet high. The nutrients found on the mountains of Tibet are very different from the nutrients found on Mont. Blanc."

We must be, therefore, very specific in our considerations when attempting to identify the nutritional requirements of any one breed. Furthermore, we must understand that changes in environment take many thousands of years to manifest in genetic adaptations. Each breed retains the genetic imprint distinct to it's native environment. Thus, today's Alaskan Malamute, a Nordic breed, still thrives on fish, however long individuals of the breed might have been established elsewhere. Mr Cusick explains:

"Each breed of dog has physical or temperamental characteristics that are different from any other breed. The question is not IF those characteristics affect a breed's nutritional requirements, but HOW MUCH do they affect a breed's nutritional requirements?"

"We should know that a breed which sheds would need different amounts of coat producing nutrients than a breed which does not shed.

"We should know that a high-energy breed of dog will need different type and amount of food calories than a low-energy breed of dog.

"We should know that a thick boned breed of dog will need different amounts of the bone building minerals than a thin boned breed of dog.

"We should know a black / thick / long / double coat will filter out the sun's ultraviolet light differently than a white / thin / short / single coat and, because the sun's ultraviolet light manufactures vitamin D on a dog's skin, that different breeds can have different requirements for this one nutrient."

CHOW CHOW NATIVE HABITAT



Arriving with the marauding Mongols, Chow Chows were first purposefully bred in Tibet, the richest, most productive part of Asia and the rooftop of the world!

Tibet has a unique climate, geography and biodiversity comparable only to the Amazon Rain Forests. Until quite recently much of the area was covered in dense forest, which held stable the otherwise inhospitable earth and helped moderate climatic extremes. There was an abundance of rivers, lakes and glaciers. Vast plains and fertile grasslands supported huge herds of yak, sheep and goats. High altitudes, thin air and intense, unfiltered sunshine rendered two giant harvests per year.

Farming was the traditional way of life, hardly changed over thousands of years. The chief crops were barley and peas. In addition, various areas also yielded great crops of oats, weather resistant root crops and hardy cold-weather plants. Traditionally, these would have included the local varieties of beans, legumes, spinach, celery, radish, turnip, cabbage, onion, garlic and some squash.

From the earliest days, dogs accompanied the nomadic herdsman and traders. The herdsman in their seasonal migration between the great plains in summer and the mighty Himalayas in winter on the endless quest for grazing. And the traders on their trips into surrounding countries, with sheep laden with salt, meat and butter, to trade for rice, sugar and spices.

Although fish and wildlife were plentiful, for the last one thousand five hundred years people mostly avoided hunting and fishing for religious reasons. Wherever possible, however, they did trap and hunt, with their dogs, ground and water birds such as pheasant, grouse, ducks and swans. Yaks were almost never slaughtered for their meat, though sheep were. Dogs, sheep, goats and calves often slept inside for the warmth of the families.

Thus, spread by the Mongol armies all the way from Siberia down to Tibet, amongst peoples ruled alternately by Mongolia, Persia and China, the staple diet traditionally consisted of:

- yak milk, butter, cheese and yoghurt;
- barley and peas;
- beans, spinach, other available vegetables;
- mutton, usually eaten raw, salted and air-dried (biltong to South Africans!);
- ground and water birds, usually roasted.

The high-carb, high-salt diet perfectly adapted the people for living at extreme altitudes and temperatures. Chow Chows would have been raised on much the same diet, being fed scraps and left-overs. Certainly, the unique physiology of the Chow Chow confirms the findings of history.

The shape of the skull and jaw, and the size, shape and number of teeth, all identify a grain eater rather than a meat eater. Health problems common to the Chow Chow, such as hypothyroidism and cancers of the liver and stomach, also suggest an impaired ability to process animal protein relative to "normal" dogs.

So what does this mean for the Chow Chows we are feeding today?

CHOW CHOW SPECIFIC NUTRITION



For many years I listened to the stories of the old-timers. I lived with the fussy eaters and small appetites. I took advantage of the low energy levels.

And then I started to research and experiment myself.

We know that -

- * Too much protein damages the kidneys. It causes kidney and bladder stones, bad breath, gout, joint problems and osteoporosis.
- * Lack of salt leaches calcium from the bones and causes joint problems, arthritis, digestive problems and dehydration.
- * Too little fat prevents absorption of essential nutrients, stunts growth, compromises immunity, increases risk of cancer, and causes skin, hormone and breeding problems.
- * Long term use of cortisone based drugs supposed to address symptoms caused by poor diet have, themselves, been responsible for organ failure and death.

There are many reasons to fix dietary imbalances and the Chow Chow's typically small appetite gives little room for guess work.

Food should be as close to the original diet as possible - in type, source and preparation.

Barley, the foundation of every meal, was eaten crushed and raw with yak butter, or boiled with meat and vegetables. Meat was raw, salted and dried, or, on special occasions, roasted. Vegetables were eaten raw, or boiled with barley. This, therefore, must be the starting point for any breed appropriate Chow Chow diet. Look for:

- barley, rolled oats, brown rice;
- peas, beans, lentils, chickpeas;
- spinach, tomatoes and other green leafy vegetables;
- kelp, salt supplements.

80% dietary protein should come from vegetables, fish or poultry, dairy and grains. Red meat should be limited to mutton or lamb. Dairy in the diet should be balanced across eggs, cottage cheese, yoghurt, and hard cheese, not just milk. Care is required to ensure that reduced red meat protein is adequately compensated with sufficient alternative protein, because too little protein in the diet can cause the entire body to break down!

FEEDING RAW

BARF (Biologically Appropriate Raw Food) and RAW (Restoring Animal Wellness) have become synonymous with feeding raw and are worth investigating. However, BARF and most raw food diets are based on the theory that all dogs should eat a wolf diet. While mongrels local to the area may thrive on such food, it is not appropriate for all dogs. Chow Chows especially are compromised by any diet recommending 60-80% meat.

For Chow Chows, raw food enthusiasts should prefer feeding whole birds over any red meat. Chicken heads - complete with bone, beak, eyes and brains - are particularly nutritious, provided they are guaranteed free of hormones, anti-biotics, growth stimulants and other additives.

FEEDING COMMERCIAL

The biggest complaint about commercial foods has been that it contains too much grain, which wolves and wild dogs would never have eaten. However, with community settlements and the development of agriculture, domesticated dogs would always have had some grain in their diets.

When it comes to feeding commercial food, match the type and proportion of protein, and the type and quality of grain, to the Breed Appropriate recommendation. Learning to read labels means understanding the regulations that apply in the place where the food was packaged – Europe, America, Africa, China all have very different labelling standards.

However, the established principle holds:

- Prefer barley and rolled oats over rice, and brown rice over wheat.
- Prefer vegetable sources of both protein and fat.
- Prefer mutton and lamb, or fish and poultry.
- Avoid ALL "unspecified" meat, grain and vegetables!

FEEDING THE OLD-FASHIONED WAY

Doreen Grant owned, bred, exhibited and - more pertinently - fed Chow Chows across two continents and through two world wars. In those days there were no easy commercial options.

Living in Africa - Zambia, Botswana, Rhodesia, Malawi and South Africa - fresh cattle and game meat was often more accessible than grain and vegetables. Yet, she watched her Chow Chows thrive on wartime rations while, at the rich colonial banquet she lost a disproportionately large number of them to cancers of the liver and stomach.

By the time I was old enough to start working alongside her in her kennels, Doreen was adamant that a Chow Chow should never be fed more than 20% animal protein, with preference always given to white meat - fish and poultry. She was especially wary of heart, lungs, liver and kidneys which she felt should be served only very sparingly and never more than once a week.

Perhaps also controversially according to modern day thinking, she was a big proponent of dairy for Chow Chows. All her dogs regularly received raw eggs, with crushed egg shell, plain yoghurt and cottage cheese. Bitches during pregnancy and lactation, and weaning puppies, were fed oatmeal porridge with lots of milk and butter, occasionally also supplemented by egg yolk or bone meal.

These convictions were based, not on any theoretical research, but on her personal experience feeding many scores of Chow Chows over more than half a century. At a time when general consensus assumed that all dogs should aspire to a mostly-meat wolf diet. Long before breed specific nutrition was even considered.

The diet sheet she provided to her puppy buyers, circa 1950, recommended absolutely no beef, no maize and no mielie meal. This was her dinner suggestion:

"Sheep's Pluck boiled for three hours with water, salt, pepper and a little Bisto. Cut up into small portions, a piece of each organ (lung, heart, liver) and mix with cooked vegetables, such as carrots, parsnips, spinach, peas, beans, mashed potatoes, mashed pumpkin, and rice.

When the pluck is finished, as a change, give any of the following:

Neck of Mutton, or Tripe, or Sheep's Head, or Chicken, or Fish (boiled or fried).

Mix with the meat meal at night some sterilised bone meal, grading from a quarter teaspoon to a large teaspoon, according to age."

Yummy!

FEEDING LOGISTICS



* Food and water dishes should be stainless steel or china. Plastic and melamine dishes have been shown to cause loss of pigmentation in the mouth. The old-timers used to attribute this to hormones introduced during plastic manufacturing processes. In today's climate of hyper-regulation this seems unlikely, however the facts remain. See for yourself.

* How often to feed

4 x daily - up to age 3 months

3 x daily - up to age 6 months

2 x daily - up to age 12 months

1 x daily - normal healthy adult

2 x daily - from age 12 years again

3 x daily - during any period where physical resources must be built or repaired for any reason, perhaps frail, ill, pregnant or lactating.

* Maintaining the vaccination schedule, removing loose hair, picking up poo and hosing away waste, regular grooming, de-worming and de-fleaing, all work together and support good nutrition in achieving great health.

* Mealtimes provide an excellent opportunity to teach manners - your own Chow Chows should *never* object to your presence while eating, and they should *never* be left to squabble amongst themselves over food.

* According to Cusick:

"Humans can store dietary carbohydrates for later conversion into energy. Canines turn all dietary carbohydrates, from any source, into instant energy, and none is stored for later energy requirements."

This would seem to indicate that it might be better to feed in the morning rather than the evening.

* Vegetables in a dog's diet should be crushed, grated or pureed to break down plant cellulose and enhance digestibility.

* Grazing is beneficial for all dogs and Chow Chows seem to have a higher than average urge to graze. Whether this is inherent or just a reaction to the highly processed modern diet, it seems to me that they should be given regular access to clean grass.

Owners must, however, remain vigilant against the risks of untended public grass spaces, such as grass seeds, ticks, sand fleas, toxic garbage, broken glass and other such litter.

SUPPLEMENTATION



Caution is advised when supplementing!

Despite its great popularity, the anticipated benefits are nowhere near as risk-free as promised. Be sure there really is a clear deficiency to start with because too much may inhibit natural autonomic processes and make matters much worse.

While too little may actually stimulate innate healing processes.

Natural food sources are safest and easiest for the body to regulate.

Always use food sources over pharmaceuticals!

Natural, Chow appropriate, sources of	Necessary for	Found in
Vit A	skin, immunity, vision, breeding	liver, carrots, spinach, turnip, pumpkin, barley, peas, sweet potato with peel, peas, eggs, chicken meat, linseed, orange
Vit B	protein metabolism, blood & nerve health	liver, organ meats, soybeans, legumes, milk, barley, oats, tomato, tuna, salmon, sardines, egg yolk, chicken and mutton, broccoli, spinach
Vit C	immunity, building collagen	broccoli, berries, peppers
Vit D	bone health, calcium metabolism	sunlight, fish liver oils, egg yolk
Vit E	anti-oxidant, wound repair	sunflower oils, vegetable oils, cod
Vit K	blood, bone health	green vegetables such as spinach, collards, broccoli, cabbage, brussel sprouts, cauliflower
Magnesium	teeth, bone strength, heart, muscle & nerve function, energy	soybeans, green leafy vegetables, legumes, halibut, quinoa, fish, poultry, mutton
Potassium	blood pressure, kidney function	sweet potato, yoghurt, tuna, soy beans
Phosphorus	teeth, bone growth	milk, dairy, eggs, peas, grains, fish
Iron	metabolism of protein, blood, pregnancy & prevention of birth defects	beans, lentils, eggs, seafood, whole grains, dark leafy vegetables, tomatoes, parsley, liver
Iodine	growth regulator, thyroid	sea salt, sea food
Zinc	immunity, nerve function, breeding	red meat, some seafood, barley
Chromium	metabolism, energy, blood sugar	meat, poultry, fish, some cereals
Fiber	digestion, heart disease	peas, beans, lentils, grains
Selenium	thyroid function	organ meats, seafoods, kelp
Calcium	bones, neurotransmitters	milk, yoghurt, hard cheese, spinach, salmon and seafood

Calcium is of particular concern for Chow Chows because they are relatively heavy-boned for their size, as many of the Nordic breeds are.

The best sources of calcium are green leafy vegetables, pulses, root vegetables, broccoli, fish and bones or bone meal. Pregnant and lactating bitches, and growing puppies - needing a higher than usual supply of calcium - should be urged to "Eat All Your Vegetables!"

“Beware all you breeders who supplement calcium to bitches and to puppies. In these waters there be dragons! Giving calcium to bitches and pups can do as much harm as good ... too much calcium supplementation can depress the flow of calcium from her reserves to the mammary glands once she has to pump out lots of nutritious milk for the pups. This can lead to eclampsia if the mobilisation is sufficiently impaired. Too much calcium to pups can also depress the hormonal control of bone growth. Studies have shown it is better to give slightly too little calcium to pups than too much. By giving slightly too little, the body turns on systems to absorb more from the gut and to mobilise more from the bony reserves.”

Nick Thompson BSc.(Hons), BVM&S, VetMFHom, MRCVS.

AVOID!

If there are some foods that are good especially for Chow Chows, it makes sense that there might be some foods that are bad especially for Chow Chows. We are told that dairy can cause skin and stomach problems, but these products are not especially bad for Chows. We are told that dogs require lots of red meat, but any high protein diet is *very* bad for Chows.

Chow Chows should especially avoid all beef, pork, game and ostrich. Avoid offal - heart, lung, liver, kidneys, brains. Avoid products which include generic animal by-products.

Chow Chows require quite a high fat content relative to, say, a German Pointer. However, animal based fats, cooked fats and old or rancid fats can interfere with absorption of important vitamins and minerals. Prefer cold pressed vegetable or seed based - not nuts - fats.

Of course, there is always space for good, old-fashioned common sense!

- * Avoid feeding immediately before or after vigorous exercise.
- * Avoid all cooked bones, always.
- * Keep your Chow Chow and his environment clean to reduce the risk of parasites and poisons.
- * Check your garden daily for what 'helpful' neighbours and passers-by might throw over the wall.
- * Watch your Chow Chow eating so you can quickly recognise when he is eating more or less, faster or slower than usual.
- * Avoid unnecessary supplementation. Over-supplementing can cause hip dysplasia! At best, it shuts down natural bodily functions and compromises the immune system.
- * Avoid highly processed or refined foods; added sugar, flavourant or preservative; polonies and people party food.
- * Avoid variety. Make dietary changes gradually and seldom.

TREATS

Treats are labelled as such because they are not nutritionally sufficient. More than that, however, in larger than intended portions some treat ingredients can be really harmful for skin, digestion and eventually even health.

Know what is in the treats you feed your dog. Never allow treats to make up more than 10% of total diet.

Raw chicken bones provide the best meat-to-bone ratio for the Chow Chow - specifically heads, necks, wings, feet or whole birds. Great big raw meaty bones are excellent for teeth and general digestion, but they are no substitute for proper food.

Some common human foods that can be toxic to dogs, include:

- coffee
- chocolate
- grapes and raisins
- raw egg white
- yeast
- onions and garlic
- raw potato
- leaves & stems of tomato, potato, rhubarb plants

Dogs need ten essential amino acids in their diet, while humans need only eight. In other words a dog could starve if fed the same proteins sufficient to sustain human life.

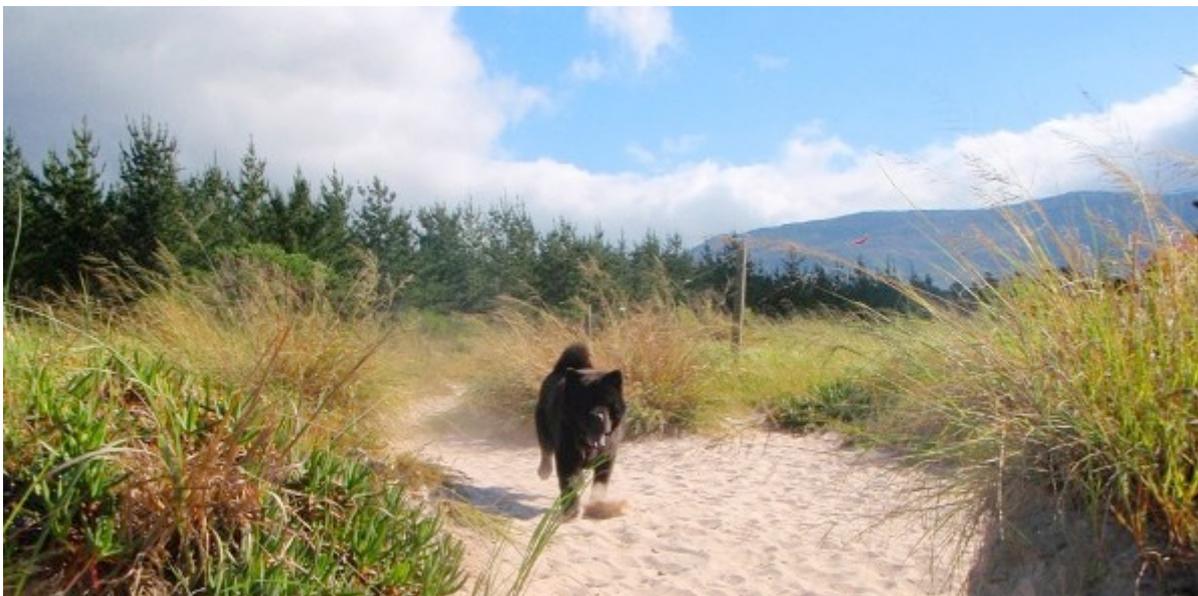
People food, and especially baby food and table scraps, can NEVER be healthy or sufficient for your dog!

Cusick warns (emphasis his):

"Except for lactose found in the milk of a lactating bitch for her puppy, all forms of sugar carbohydrates have been found to be detrimental for all types of dogs."

Water comprises over 60% of a dog's body weight. It must be replaced continuously because it is being lost continuously. It is essential for all other digestion. But, due to variations in soil minerals and chemical treatments, not all water is the same.

Make sure that all your dogs ALWAYS have access to plenty of clean water!



Years of fast foods have created pockets of malnutrition, obesity, disease and degeneration in our most prosperous human societies - but also resulted in much greater awareness and education.

What is here presented should contribute to your knowledge, without being in itself definitive. It makes sense to use everything you know to help your Chow Chows have long, healthy, happy, and active lives!

Please note: Nothing in this article is meant to replace veterinary advice.
Always consult your vet before implementing any special diets.

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