

Canine Nutrition & Breed Specific Diets

*Each Breed NEEDS A Different Diet
And This Book Focuses On*

THE BEST DIET FOR A
GERMAN SHEPHERD DOG



With
Histories, Nutritional Guidelines and
Recipes . . . *for this special breed of dog.*

By
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Forward

This book is the result of a comprehensive study of specialized nutritional needs of a German Shepherd Dog.

This book will show German Shepherd Dog owners why dogs of this breed taken out of their natural habitat and fed a diet containing food sources unsuitable for their specific systems will develop nutritional allergies. It gives the dog owner a simple solution to this common problem, which can be manifested by body rashes, pigmentation changes, or coat loss. This information also explains why a nutrient source in a diet satisfactory for a different breed may cause nutritional problems for a German Shepherd Dog.

Please Note:

This book is designed to provide information in regard to the subject matter covered. It is sold with the understanding that the publisher and author are not engaged in rendering veterinary, medical or other professional services. If veterinary or other expert assistance is required, the services of a competent professional should be sought.

It is not the purpose of this manual to reprint all the information that is otherwise available to the author and/or publisher, but to complement, amplify and supplement other text. You are urged to read all the available material, learn as much as possible about canine nutrition and to tailor the information to the individual needs of your companion pet.

Every effort has been made to make this manual as complete and as accurate as possible. However, **there may be mistakes** both typographical and in content. Therefore, this text should be used only as a general guide and not as the ultimate source of information on canine nutrition. Furthermore, this manual contains information on canine nutrition only up to the printing date.

The purpose of this manual is to educate and entertain. The author and publisher shall have neither liability nor responsibility to any person or entity with respect to any loss or damage caused, or alleged to be caused, directly or indirectly by the information contained in this book.

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With Special Thanks

TO SANDRA

Without you this book would not have been finished

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HOW THE GERMAN SHEPHERD DOG DEVELOPED THEIR UNIQUE SET OF NUTRITIONAL NEEDS

It is truly fascinating to see a German Shepherd Dog standing beside a 235-pound Irish Wolfhound, a 5-pound Pekingese, a Chow Chow, and a Dachshund. When different breeds are standing side by side, it is sometimes hard to comprehend that they all belong to one single species of animal. There are over 250 different breeds within that one single species called canine. Each breed is unique; each differs in its appearance, its temperament, and its nutritional needs. How did these many breeds become so differentiated?

To understand the development of the variations found in modern day dogs, we must go back before the time man first became involved with these animals, just a short 10,000 years ago. The actual evolution of modern day dogs began over 40 million years ago! It is by going back and researching dogs' evolution over these last 40 million years that we gain insight into how the modern breeds of today became so differentiated.

None of us questions the difference in coats between an arctic breed and a breed from the desert. Most of us also accept the theory of how different breeds developed different coats to survive within a specific environment. In the arctic the extremely low temperatures created a requirement for a thick double coat to protect the dog in its cold climate. In the desert the hot arid temperatures created a requirement for a lighter single coat. Thus, the dog's survival in these different climates dictated the development of a suitable coat.

We also should not be surprised to find different nutritional requirements among breeds from different environments. Like the way an environment's climate effected the development of a German Shepherd Dog's coat, that same environment effected the development of a German Shepherd Dog's nutritional requirements. The native nutrients found in Nordic tundra and ice are different from the nutrients found in the sand of the desert. Therefore, as each type of dog developed within a specific environment, its survival also depended upon the dog's ability to process that environment's food. Thus exposure to different environments produced breeds of dogs with as many variations in nutritional requirements as they have variations in appearance.

When comparing two breeds, often the differences can be more easily identified if each breed has remained within a specific type of environment for a prolonged time. For example, comparing exterior differences between any one of the Nordic breeds and the Pharaoh Hound is obvious. The Nordic breeds all developed in cold climates. The Pharaoh Hound developed in the arid regions south of the Mediterranean and was even isolated on a single Mediterranean island for thousands of years. Since we know of this isolation we also can identify the Pharaoh Hound's specific developmental native nutrients. Knowing both the Pharaoh Hound's present nutritional requirements and their native island's specific nutrients, we can see the association between these two known facts. We also can show how this isolation, by limiting the breed to specific nutrients, produced very pronounced breed specific nutritional requirements.

With breeds that are new genetic hybrids, it is also possible to identify the environments and the native nutrients that played a role in the creation of their nutritional requirements. However, to accomplish this we must be able to trace their family tree. An example of this would be our tracing the development of the Sealyham Terrier, which was created by Captain John Edwards in the late 1800's. Since Captain Edwards kept very accurate records of his breeding efforts in the development of the Sealyham Terrier, the process of tracing its family tree is easy. With other genetic hybrids this process can be much more difficult, and with some breeds all that can be done is offer an educated guess.

When considering the history of nutritional development for the members of the dog family, another lesson we can learn from close inspection of each breed is; be careful not to assume that all dogs from a specific country, *as we know it today*, have the same nutritional heritage. A dog from China could be from the Mandarin, Hunan, or Szechuan province. A dog from a smaller country, such as Germany, could have come from a mountain environment, middle elevation plateaus, or a lowland area next to the Baltic Sea. A dog from Italy could have come from the Sicilian or the Castilian Province. Within each country there may be different environments. These in turn have their own unique foods. Thus, breeds developing in the different environments of a single country would have developed different nutritional requirements.

Also, to believe that all desert breeds or all mountain breeds have the same nutritional needs is wrong. We would have to be more specific.

Are the nutrients found in a high desert or a low desert environment? Or if you are referring to the Alps of Germany, Switzerland or France as *The Mountains*, 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 elevations (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.* Therefore, when considering the environment where a specific breed of dog developed, we must look beyond the geographic label of *mountain, plateau* or *desert* to identify the nutrients from that specific breed's area of origin.

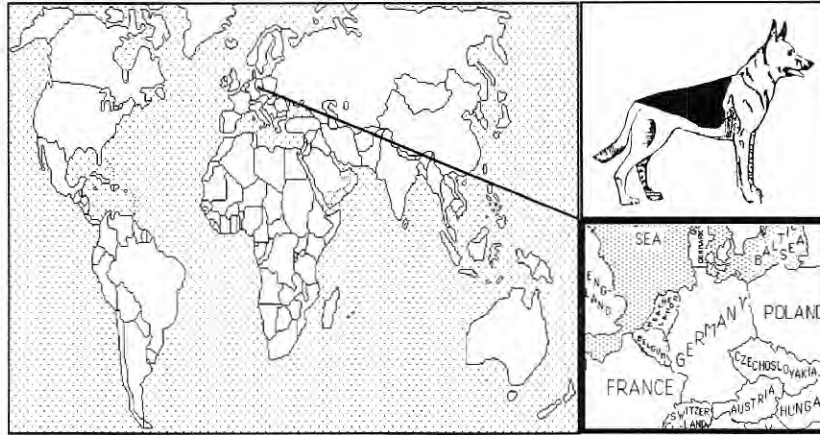
Now let us consider the length of time that it would take to make a genetic change, due to an environmental change for any of today's breeds of dog. Man has written about specific breeds of dog for the last 8000 years, but not one word can be found showing that a single breed of dog has changed its genetic make-up due to a change in its environment in all this time. On the other hand many written accounts of breeds show they remain the same, even after prolonged exposure to a new and different environment. One example of non-change after prolonged exposure to a new environment is in the written records of the Whippet. These records indicate the Whippet, which was transported from a hot and dry homeland to England's cold and damp climate in 49 A.D., was very much the same then as today's Whippet. This breed has retained a short sleek coat developed for a hot and dry climate, even after 2,100 years of being bred true in a cold and damp climate. Thus, the Whippet by retaining its short sleek coat, is evidence to us that the length of time it can take to make an evolutionary change due to environmental effect can be over 2,100 years.

The length of time needed to make a nutritional requirement change due to exposure to a new environment's food supply also can take thousands of years. This is why today's Alaskan Malamute (a Nordic breed) still thrives on fish, the German Shepherd Dog (a low plains farmland breed) still thrives on beef and grain, the Greyhound (a desert breed) still thrives on rabbit and the German Shepherd Dog thrives on the ingredients used in the recipes in this book. These breeds, like all the different breeds removed from their native environment and exposed to a single food supply (i.e., one processed dog food formula), cannot have their nutritional needs satisfactorily fulfilled by any food formulated to be eaten by all breeds. **Each breed has retained the genetic differences that it developed in its distinctly different native environments** and for this reason, each - including the German Shepherd Dog - should be treated NUTRITIONALLY as the unique breed that it is.

*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?*

RELEVANT HISTORY OF THE GERMAN SHEPHERD DOG



Weight Standards: m - 80 to 85 lbs., f - 65 to 70 lbs.

Height Standards: m - 24 to 26 inches, f - 22 to 24 inches

Coat: dense, straight, short, tricolored

Common Ailments: dysplasia, and gastric disorders

The German Shepherd Dog originated in the Alsatian Region of Germany. Today it is used world wide as a sentry, police dog, tracker, drug dog, search and rescue dog, and guide dog for the blind. The official name for this breed is *German Shepherd Dog*, though it is often called the German Shepherd or just Shepherd. For many years this was the only breed shown at AKC shows within the U.S.A. that had the word *dog* in its official name.

The German Shepherd Dog is unique because it has a very short colon in comparison to other breeds of the same body weight. For this reason a high fiber diet is required to slow the movement of food through this breed's digestive track, thereby allowing more time for the nutrients to be drawn out. This high fiber diet will result in a larger stool but better assimilation of the food. I caution that this fiber must be from the proper sources and the amount should be carefully controlled. Too much fiber or fiber of the wrong type can cause impacted bowels.

The environment for the Alsatian Region of Germany provided this breed with primary food sources of beef, wheat, leafy greens like cabbage and root vegetables like potato and carrots. The recipes in this book contain a blend of these food sources because they have been determined to be the best for this breed. Conversely, I feel the worst blend for a German Shepherd Dog would contain fish, soy, or rice.

INDIVIDUAL FUNCTIONS OF VITAMINS & MINERALS IN THE DIET OF A GERMAN SHEPHERD DOG

Vitamin A Important for healthy skin, hair, eyes, and normal bone growth.

Vitamin B-1 Essential in the metabolism of carbohydrates and protein. Deficiency causes heart and nerve disease.

Vitamin B-2 Essential for normal growth, healthy skin and hair. It has been used as a natural aid in coping with stress.

Vitamin B-6 Essential for normal blood, nerves and growth, and metabolism of protein.

Vitamin B-12 Important in the development and maintenance of normal blood cells.

Vitamin D Needed to assimilate the calcium and phosphorous in the development of normal teeth and bones.

Vitamin E Protects against effects of oxidized or unstable fats in diet. It is important for reproduction and helps the body use Vitamin A.

Niacinamide Helps to maintain the integrity of mouth tissue and the nervous system and is essential in converting food to energy.

Biotin Present as a member of the B Complex in nature and is associated with normal growth, healthy skin and hair.

Folic Acid A hematopoietic vitamin, used for normal blood, growth and health of the fetus.

d-Calcium Pantothenate Required for the formation of certain hormones and nerve-regulating substances and to maintain the proper level of blood sugars.

Para Amino Benzoic Acid Helps the body use proteins, fats, and carbohydrates. It is important in the body's rejection of infection.

Selenium Interacts with Vitamin E and is associated with normal liver, muscle, and reproductive function.

Lecithin Significant constituent of nervous tissue and brain substance. It also breaks down cholesterol and prevents fatty infiltration of the heart and liver.

Calcium Essential for formation of normal teeth and bones and is important in the transmission of nerve impulses, and muscle contraction.

Copper Works within the digestive system for normal iron use and maintenance of normal bones and hair.

Iodine Necessary for normal thyroid function and works with protein to form thyroxines in the thyroid gland.

Iron Important to the transfer of oxygen in blood and muscles and is essential to the development and maintenance of normal red blood cells.

Magnesium Necessary for normal tooth and bone formation and is important to cellular energy transfer and normal muscle and heart function.

Manganese Assists magnesium and other minerals in the formation of normal teeth and bones.

Phosphorus Essential to storage and release of energy in blood cells. It must be present for formation of normal teeth and bones.

Potassium Necessary for normal body growth, fluid balance, and muscle contraction.

Zinc Essential constituent of insulin and is necessary for normal growth and healthy skin and hair.

Note: Please do not take the information in this one chapter out of the context of the book. Remember that each of these nutrients is a team member and should be provided in balance with the other team nutrients as outlined in the chapter on “Nutritional Teamwork.”

NUTRITIONAL TEAMWORK

When inspecting each essential nutrient in a German Shepherd Dog's diet, it is very important to look at the other nutrients they affect or that affect them. The nutrients that work together are the NUTRITIONAL TEAMS. We all recognize the teamwork between water and solid foods in the dog's diet. If either one is not present, we know the result will be death due to a lack of an essential part of the dog's diet. On the other hand, if we present any one part of the team in quantities that are too far out of proportion to the other parts, we can have the same disastrous results. **Balancing all the parts of a nutritional team is the most important factor** for formulating a proper diet for a German Shepherd Dog. The complete nutritional team for canine nutrition consists of solids and liquids. These can be broken down to include: protein, vitamins, minerals, trace minerals, enzymes, fiber, fatty acids, carbohydrates, bacteria, and water. Then each part of the complete nutritional team can be broken down into a team of its own.

The protein team:

Protein consists of building blocks called amino acids. It is the balance of ten specific amino acids that give dietary protein its bio-nutritive value. The ten *essential* amino acids are; Valine, Leucine, Isoleucine, Threonine, Methionine, Phenylalanine, Tryptophan, Histidine, Argine, and Lysine. All ten of these must be present within the protein for a dog to receive any use of the protein at all. Other amino acids that are considered *non essential* amino acids are; Alanine, Asparagine, Aspartic Acid, Cystine, Glutamic Acid, Glutamine, Glycine, Proline, Serine and Tyrosine. The *non-essential* amino acids can be produced by the dog (in vivo) and therefore are not required in the dog's bulk food intake. The *essential* amino acids are the ones that must be in their food.

The vitamin team:

There are three types of vitamins required for proper canine nutrition: The water soluble vitamins of B-1, B-2, B-6, B-12, niacin or niacinamide, biotin, folic acid, d-calcium pantothenate, and para amino benzoic acid; The fat soluble vitamins of A, D, and E; and those vitamins like C and K that can be produced by the dog (in vivo) and therefore are not required in the dog's bulk food intake. I also include the nutrients of choline and inositol within the B complex vitamin team. These two nutrients are not considered vitamins. However, they work directly with the water soluble B vitamins and are so closely related that I place them in the same team.

The mineral team:

The minerals essential for canine nutrition consist of Calcium, Phosphorus, Potassium, Sodium, Chloride, Magnesium, Manganese, Iron, Copper, Iodine, Selenium, and Zinc. The common practice of adding one team member (Calcium) to a dog's diet by pet owners often produces the best example of the danger of imbalancing a nutritional team. This practice provides quantities of calcium that are too far out of proportion to the other team members. There have been many studies done that show adding calcium without the proper balance of the rest of its team mates can deform the skeletal structure in puppies. These studies are those most often used by nutritionists working for dog food companies to show the dangers of supplementing their "balanced" all-breed dog food. This team is also directly linked to the vitamins that are fat soluble and the balance between these two teams is extremely important.

The trace mineral team:

This team is directly related to both the mineral and vitamin teams. The trace mineral team consists of; Cobalt, Molybdenum, Copper, Fluoride, Iron, Arsenic, Magnesium, Zinc, Chromium, and Manganese. As you can see, many trace minerals appear to be the same as those listed as minerals. The main difference between those with the same name but found in a different category is their molecular configuration. Due to the unique molecular configuration of trace minerals they are very fragile. For example; the simple stone grinding process of wheat flour can cause from 70% to 90% of the natural *trace mineral* Iron to be destroyed. However, the same process would have little effect on the *mineral* form of Iron.

The enzyme team:

The enzyme team consists of Lypase, Amylase, and Trypsin. The dog's Pancreas secretes these enzymes into the intestines where they perform their team functions. Enzymes, like the nonessential amino acids of proteins that are produced by the dog in vivo, are not required in a healthy dog's bulk food intake. However, when supplemental enzymes are required, it is very important that they are manufactured in such a manner as to be released in the proper place within the dog's digestive system. The pancreas secretes its digestive enzymes into the digestive system when the food has already been exposed to several other digestive processes. By the time the food is exposed to the enzymes, the teeth have torn the food into smaller size, the acids and bacteria of the digestive system have started their work on the food, and so forth. Enzymes have very specific duties to perform, and as with all digestive functions, there is a proper time and place for each specific function. When supplemental enzymes are introduced into the digestive process in the wrong place, they can interfere with the functions of individual nutrients or other nutritional teams.

The fiber team:

The fiber team is one of those teams that is often overlooked. However, the work it performs plays a major function in canine nutrition. Fiber is responsible for slowing the food's movement throughout the digestive system, thus allowing each part of that system the time to perform its function properly. Also fiber and bacteria join in the dogs gut to produce vitamin K.

One important thing to consider with fiber is how it differs by source. A wild carnivore may add fiber to its diet by eating the bark of a tree or grasses such as wheat or oats. The major differences here would be that tree bark will not swell in the gut like oats. Oats can swell up to ten times in size when they come into contact with a **canine's** gastric juices. Note: swelling of fiber can cause a problem if there are large quantities of this fiber from the wrong source in the dog's dietary intake. The swelling can produce a bulk within the intestine, which can impact the system. On the other hand, some sources of fiber that do not swell, like that from tree bark, may not allow the proper growth of bacteria **in a dog's gut** for that dog's in vivo production of vitamin K. It is very important to match the fiber source in the dietary intake of a dog with sources found in the breed's native environment.

The fatty acid team:

There are three fatty acids a dog must have to be able to produce the arachidonic acids that its body requires. The three fatty acids are: Oleic Acid, Linolenic Acid, and Linoleic Acid. All three are found together in any natural source containing what is called the Alpha-Linolenate family. The

classic symptom of a fatty acid deficiency is a dry and brittle coat. The breeds that produce skin oils also will require a different balance of this team than those breeds that do not produce skin oils. The fatty acid team should not be confused with "fat", which is more a source of nutritional carbohydrates. However, some types of animal fats do contain both carbohydrates and small amounts of the fatty acids. Vegetables and grains such as wheat bran, corn, linseed, or soy beans normally contain the highest concentrations of the Alpha-Linolenate family.

The carbohydrate team:

Carbohydrate requirements change at very specific times in a dog's life cycle and in times of stress or work. Canines cannot "carbohydrate stack" (store carbohydrates for energy) as humans can, but they turn carbohydrates from the dietary intake into instant energy. Puppies and geriatric dogs should receive much of their energy from high carbohydrate food rather than from high protein food. Dogs convert high carbohydrate food into energy in a short time after ingesting it. They will need to be fed more often during the day to maintain proper energy levels. Also, in the time of lactation, the bitch will turn some carbohydrates into a very special form of milk sugars for her puppies' energy requirements. Producing energy from dietary carbohydrates can be much easier on the dog's body than the process of producing energy from protein. Protein must be stored in muscle tissue and then withdrawn for conversion into energy.

The bacteria team:

Like fiber, bacteria is a part of canine nutrition too often taken for granted. A wild carnivore will often bury its kill, after eating the guts (high in bacteria content), to let the carcass rot prior to eating it. This rotting is nothing more than allowing bacteria to break down the muscle tissue to make it more digestible. The bacteria team also works very closely with the fiber team within the digestive system to develop and grow cultures. These cultures in turn produce vitamin K in the dog's gut. New research is now being done with bacteria to study its role in canine nutrition, and its importance is becoming more defined.

Note: Bacteria is found throughout the dog's digestive system. Bacteria in the mouth should not be removed by chemicals so that the dog will have sweet smelling breath. This is a human's cultural hang-up, and one that can cause dietary distress in canines by removing a very essential nutritional part from a dog's digestive process.

The water team:

Water is the most important nutrient team. Water comprises over 60% of a dog's body weight. Deprivation of water causes death faster than deprivation of any other nutrient. Water also works with ALL the other nutrient teams in the performance of their individual or collective functions. Water intake is normally in balance with water loss through the dog's urine, lungs, skin and feces. The loss of water through each method depends on factors such as activity levels, stress levels and the environmental temperatures. Water must be replaced continuously because the loss of water is continuous. This means that the dog must always have access to water. However, not all water is the same. Well water from an area high in soil minerals also will be high in those minerals unless treated. Many cities treat their water supply with chemicals. Each city will use different chemicals and treatment processes depending upon the sources of their water.

The end product called "water" may only be similar to "water" from another city for the mere fact it is a liquid. Dogs can develop diarrhea from a sudden change in the sources of any nutrient and water is no exception. Therefore, I recommend you try to provide water from the home source when traveling with a dog. This can be done by taking along water from home or you can acclimate your dog to a specific type of bottled water before the trip. Then all you need to do is buy the same type of bottled water as needed during the trip.

There are dangers in breaking down nutritional teams of solid food and liquids into their component parts and in turn further breaking down each of these components. One danger is that a person doing research in the field of nutrition can become too focused on a specific nutrient and disregard how that one nutrient interacts with other nutrients. For example; we all know that it takes calcium to build healthy bones. Knowing this *one fact* and taking it out of context can lead to problems. Adding lots of calcium to a puppy's food, without the other nutrients calcium interacts with for building bones, can be counter productive. Another danger occurs when the researcher is looking for a specific result. When the researcher achieves his goal, he does not carry on to see what other areas have been effected. The best example of this would be the research on a product to change the elasticity of the muscles holding the hip joint together, thus changing the occurrence of hip dysplasia. Such a product has been researched and is available. However, that product also damages an otherwise healthy dog's liver and kidney.

When considering the field of canine nutrition and formulating a proper diet for your dog, I feel that a holistic view must be taken.

Therefore, again I will emphasize that I feel **the balancing of *all the parts* of each nutritional team is the most important factor when feeding a German Shepherd Dog.**

The Source of Dietary Protein Being Used

MUST Match

With The Nutritional Needs

Of The

Breed Being Fed

WHY A GERMAN SHEPHERD DOG NEEDS A SPECIAL BALANCE OF AMINO ACIDS IN ITS PROTEIN

Protein is one of the most important parts of dog food, as well as one of the least understood by the average dog owner. Most people have the misconception that the amount of protein the food contains is the important factor. However, the important factor is: *How much of the food's protein can be used by the animal consuming it?* To determine the amount of usable protein, we must first break protein down into its component parts. These parts are called amino acids. There are two classifications for amino acids of dietary protein; (1) essential - those that the dog's own body *cannot* manufacture in sufficient quantities and (2) non essential - those that the dog's own body *can* manufacture in sufficient quantities. It is the presence, balance and quality of the essential amino acids that determines the bio-nutritive value (% of usable protein) of the protein in a dog's feeding program.

All the amino acids, both essential and non-essential, have very specific nutritional jobs within the dog's body; such as the building of the muscle tissue, the regulation of antibodies within the immune system, and the transfer of nerve impulses etc.

The essential amino acids and some of their functions for a dog are:

ARGININE: This essential amino acid stimulates immune system response by enhancing the production of T-cells, has a protective effect of toxicity of hydrocarbons and intravenous diuretics, is related to the elevated ammonia levels and cirrhosis of the liver by detoxifying ammonia, and induces growth hormone release from the pituitary gland.

HISTIDINE: This essential amino acid releases histamines from body stores, is associated with pain control, is associated with arthritis, and widens small blood vessels; thus aiding early digestion by stimulating stomach acid secretion.

ISOLEUCINE and LEUCINE: see VALINE

LYSINE: This essential amino acid promotes bone growth in puppies, stimulates secretion of gastric juices, and is found in abundance within muscle tissue, connective tissue, and collagen.

METHIONINE: This essential amino acid assists gall bladder functions by participating in the synthesis of bile salts, helps to prevent deposits and cohesion of fats in the liver due to lipotropic function, is related to the synthesis of choline, balances the urinary tract pH (in its dl form), and gives rise to Taurine (an important neuroregulator in the brain).

PHENYLALANINE: This essential amino acid stimulates cholecystokinase enzymes and thus is related to appetite control, increases blood pressure in hypotension, works with minerals in skin and hair pigmentation, gives rise to Tyrosine, and produces adrenaline and noradrenalines.

THREONINE: This essential amino acid regulates energy draw requirements, works with Phenylalanine in mood elevation or depression and skin pigmentation, manufactures adrenaline, and precurses Thyroid hormone.

TRYPTOPHAN: This essential amino acid produces Serotonin that induces sleep, precurses the vitamin Niacin in treating and preventing pellagra, and is a vasoconstrictor that appears to aid in blood clotting mechanisms. Studies indicate a lack of tryptophan and methionine together can cause hair loss.

VALINE, (ISOLEUCINE AND LEUCINE): These essential amino acids work together and are classified as "branched-chain" amino acids. The three combine to regulate the protein turnover and energy metabolism, are stored in muscle tissue, and are released to be converted into energy during times of fasting or between meals.

Listed above are the ten amino acids that are essential for a dog's dietary requirements. Note humans only require eight essential amino acids in our dietary intake, and for this reason a dog could starve if given the same protein sufficient to sustain human life.

Other factors to consider concerning a specific dog's protein requirements are:

- (1) The age of a dog can change its protein requirements. Both puppies and geriatric dogs require lower amounts of protein and higher carbohydrate %'s in their food.
- (2) The dog's activity level or stress level (due to environment or working conditions) can change its protein requirements.
- (3) A bitch during the gestation and lactation period has her own very specific requirements.
- (4) The other ingredients within the food can affect the amount of each amino acid required. For example, a food that is highly acidic (due to a preservative) can increase the requirement of the amino acid Methionine.

The problem of selecting the proper protein blend for a specific dog can be very confusing but can be simplified by applying this single rule: *When choosing the protein blend that is best for a specific breed of dog look for the protein sources that were in that specific breed's native environment and then match them as closely as possible.*

When considering an environment's protein sources you should take many factors into consideration. First, with the environment's meat protein sources you should remember to look beyond labels such as *cattle* before assuming that they are describing beef. In some parts of the world the term *cattle* can be referring to a herd of goats, water buffalos, or reindeer. *Cattle* may not always mean beef from the state of Texas. Also with each protein source the amino acid balance can be different depending upon the environment from which we take our sample. When testing food sources, we find that *herring* from the Pacific Ocean has a different amino acid profile than *herring* from the Atlantic Ocean. Also, Texas longhorn cattle produces *beef* with a different amino acid profile than Pennsylvania dairy cattle *beef*.

Second, consider **all** the protein sources of the area to establish if that environment's meat protein is the type of protein that is best for a specific breed. For example; The Chow Chow developed in an area of China where meat is available as a dietary source of protein. However, the meat source of protein was the Chow Chow and it was available to the humans. The Chow was fed grains to produce a tender and nicely marbled meat for the human's table. This breed's development as a vegetarian also explains why today's Chow Chow has the jaw and flat tooth structure of a grain eater. Also, why today's Chow Chow has a body with a high fat to low muscle fiber ratio. Therefore, after considering all the factors for a Chow Chow's dietary protein, it may be best to use only the vegetable sources of protein found in its native environment.

Third, the amount of each protein source used in a single dog food becomes important since the amount of each source found in a specific environment can be quite different. A breed that developed in an environment that had few grain crops would need less grain in their food than a breed that developed in an area where grain protein comprised the bulk of their dietary protein intake.

Fourth, the blend of protein sources is important since different sources of dietary protein contain different amounts of both the essential and non-essential amino acids. For example, equal amounts of lamb meat, beef, fish, chicken, or horse meat from the same environment will contain different amounts of essential amino acids. Sources such as soy, corn, rice, beet, wheat, and alfalfa also contain very specific amounts of essential and non-essential amino acids in their protein.

The following two tables show how different protein food sources can provide different amounts or types of protein.

The differences in protein and fat ratios
different meat sources from different areas of the world.

Food source:	% of Protein	Protein to Fat ratio
Domesticated Pig	12.5 %	1 to 3
Wild Warthog	13.0 %	10 to 1
Western Domesticated Beef	11.6 %	1 to 3
Western Wild Venison	14.0 %	7 to 1
East African Eland	12.0 %	6 to 1
East African Buffalo	15.0 %	5 to 1

**The following table shows relative comparisons
for amino acid amounts of some common dog food protein sources.**

Food source (100 g. each)	Amino Acids											
	Arg	Cys	His	Iso	Leu	Lys	Met	Phe	Thr	Try	Tyr	Val
Chicken	1378	311	655	1125	1653	1765	591	899	922	257	732	1100
Turkey	1979	308	845	1409	2184	2557	790	1100	1227	311	1066	1464
Beef	-	-	-	1329	2081	2220	631	1045	1122	297	-	1411
Lamb	-	-	-	1068	1595	1667	494	837	943	267	-	1015
Pork	-	-	-	1510	2164	2414	733	1157	1364	382	-	1529
Soybeans	-	-	-	649	935	759	165	594	423	165	-	638
Tuna	1518	-	1619	1316	2024	2327	810	1012	1214	-	303	1417
Herring (Atl)	-	-	-	882	1315	1522	502	640	761	173	-	934
Herring (Pac)	-	-	-	892	1312	1522	508	648	752	175	-	928

Note: the above table compares meat to meat - not to a meal or by-product source.

FAT CARBOHYDRATES AND FATTY ACIDS IN THE GERMAN SHEPHERD DOG'S DIET

There are differences between the dog and human in their use of carbohydrates. This includes the use of different forms of carbohydrates from starch or sugar. For example; we know sugar forms of lactose, dextrose or glucose are all different as dietary sources of carbohydrates. These can be stored or used as an instant energy supply by a human. Also, we know how a human stores carbohydrates from some starch sources better than sugar sources for future energy requirements. Only the human 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 energy requirements that develop later. **Also, for all types of dogs, all forms of sugar carbohydrates have been found to be detrimental,** except for lactose found in the milk of a lactating bitch for *her* puppy. *Please Note; this form of lactose is not the same as a synthetic lactose from sugar beet or sugar cane or even the lactose found in the milk of other species of mammals.*

Like the sugar carbohydrates of lactose, glucose and dextrose being different, carbohydrates found in animal fat, vegetable and grain sources (soy bean, beet pulp, wheat, rice, potatoes or corn) are all different. These differences are important. One study cited in the NRC publication Nutrient Requirements of Dogs shows that the digestible fat from one source provides 2.25 times the metabolizable energy concentration of digestible carbohydrate than from a second source. Another study cited showed different breeds of dog need different amounts of carbohydrates or different carbohydrate to protein ratios in their food. Therefore, if a German Shepherd Dog is requiring a high carbohydrate diet due to age or life-style, you need to provide those carbohydrates in the proper amount and from the proper source.

When you are considering which food source of carbohydrates contains the proper form for a German Shepherd Dog, you should consider the type of food sources that were in the native environment for this breed. Then also remember to eliminate those sources that would have been foreign to the breed's native environment. A German Shepherd Dog developed where potatoes or flax were common dietary sources of carbohydrates, would not have been exposed to rice, unlike a dog breed from China which could have been exposed to several different types of rice that were grown as common sources of dietary carbohydrates in its environment. A dog breed from a mountain environment, where both vegetable and grain crops are scarce, could have a different need for its carbohydrate source as well. Some mountain breeds of dog may not utilize potato or rice carbohydrate any better than a sugar, but best use an animal fat form of carbohydrate. A dog breed from a mountain environment, where both vegetable and grain crops are scarce, could have a different need for its carbohydrate source as well.

Animal fat is one of the most common carbohydrate sources found in commercial dog food and because a food contains animal fat, it is often assumed it is providing dietary fatty acids. Normally this is not so since animal fat in dog food is exposed to extremely high temperatures during processing procedures. The high temperature can eliminate the polyunsaturated fatty acid content of the rendered fat. In many cases manufacturers use separate food sources to provide fat carbohydrates and polyunsaturated fatty acids in their foods. Some commercial dog food manufacturers use grain or vegetable oils that have been cold pressed or processed to retain the polyunsaturated fatty acids.

These cold pressed grain and vegetable oils still contain the fatty acids known as the alpha-Linolenate family. There are three fatty acids that make up the entire alpha-Linolenate family; oleic acid, linolenic acid, and linoleic acid. With breeds that produce skin oil, the requirement for the oleic acid part of the alpha-Linolenate family is higher than with the breeds that do not produce skin oils. However, it is essential for all dogs to receive all three of these fatty acids to produce the arachidonic acids they all require. Since these fatty acids are a complete nutritional team, they should be listed on labels in the same way that manufacturers of premium foods list the amino acid content of their food's protein. Manufacturers who list all three on the label provide you with a more accurate statement of the package contents. This labeling practice enables you to choose more intelligently the proper food source of fatty acids for your German Shepherd Dog.

In processed dog foods animal fat should be considered as only a source of dietary carbohydrates. After the rendering process, it contains very little of the alpha-Linolenate fatty acids. A complete diet for a German Shepherd Dog should contain both animal fat and a source containing the alpha-Linolenate family of polyunsaturated fatty acids. Do not assume fatty acids are present just because the dog food label has fat listed. The finished product may or may not have any fatty acids. Commercial food manufacturers may add animal fat just for its carbohydrate content or to make it more palatable for most canines.

Also do not assume that the product contains all three of the fatty acids of the alpha-Linolenate family if the label only lists Linoleic acid. This one fatty acid can be purchased separately as a raw material for dog food.

Table F-1: The following table shows relative comparisons for some common commercial dog food fat and fatty acid sources.

Food source	alpha-Linolenate Fatty Acids		
	oleic acid	linolenic acid	linoleic acid
Rendered Chicken fat	under 0.1%	under 0.1%	under 0.1%
Rendered Beef fat	under 0.1%	under 0.1%	under 0.1%
Rendered Pork fat	under 0.1%	under 0.1%	under 0.1%
Cold pressed Linseed oil	36%	11.4%	42.5%
Cold pressed Wheat germ oil	30%	10.8%	44.1%
Cold pressed Soy bean oil	26%	11.0%	49.0%

Both carbohydrates and fatty acids are important and both must be provided in dog foods. However, you must use a source of carbohydrates or fatty acids that can be assimilated by the breed of dog you are feeding.

An indicator that your dog is rejecting food carbohydrates from sugar, grains, vegetables or animal fat in the food is persistent diarrhea. The indicator that your dog is not assimilating the fatty acids is a loss of coat shine or a loss in the skin's elasticity. Therefore, it is easy for the dog owner to see a dietary carbohydrate or fatty acid nutritional problem. Conversely, it is also easy to see when foods are supplying the proper sources and amounts of these important nutrients.

Good Nutrition Is Only A Part Of The Picture

CONTROLLING A GERMAN SHEPHERD DOG'S WEIGHT WITH DIET AND EXERCISE

I will never forget one dog owner who argued with me for months on end that there must be something wrong with her dog's glandular system that made it obese even though all of the tests on her 38 pound Dachshund showed no glandular problems. The dog owner continually complained about the amount of money being spent on medical problems caused by the dog's obesity. They had the dog's vertebrae fused and every month spent a good deal of money on ointments for the raw spots caused by the dog's stomach dragging across the carpet. For months they told me that they would do anything . . . spend any amount of money for the dog they loved. Yet every time I reviewed the dog's diet the one thing that stood out was the type and amounts of treats they were giving this poor dog. I urged them to stop giving their dog treats, even "healthy" treats. But they argued that they could not deny their loved one what made it happy and kept giving their dog the treats. I tried to convince them that there are times that we must do what is best for the dog by denying it that treat or snack. I argued that an owner may not get instant gratification, being able to see the pleasure on the dog's face as we give it another treat, but by NOT giving the dog that treat we can add years to its life. Their loved one died an early death.

In the last thirty years of dealing with dog owners and their dog's diets I can not tell you the number of times I have heard an owner state: "I love my dog and would do anything for it" . . . and watched that owner's actions speak louder than their words as they took years off of their loved ones life by overfeeding it.

For a German Shepherd Dog, body weight can be controlled by the amount of food and exercise the owner provides. When I refer to the "food" this includes not only the amount the owner puts into the dish at feeding time but all the snacks and treats that the dog gets from the owner. Commercial treats that are full of chemical preservatives and dyes should NEVER be fed to any German Shepherd Dog. Healthy treats for this breed are: an apple core (including the seeds), a slice of green bell pepper, a carrot, a baked potato skin (with some chicken fat on it is OK), a piece of cooked yam or sweet potato and a small amount of popcorn (popped without butter or salt).

The amount of exercise a dog gets is just as important as the amount of food the dog gets. The relationship of a dog's dietary intake and exercise can not be separated, they must be viewed as one. As a general rule, if a dog is getting a lot of exercise it will be able to eat more than the same dog which is not getting much exercise, and still maintain its weight. When a dog exercises it does more than flex muscles. Exercise causes the glands to work in a way that nothing else can. There is no replacement for what exercise will do for a dog. And since all German Shepherd Dogs have different exercise regimens, it is up to the owner to monitor each area and provide the food needed by their dog based on that dog's exercise regimen.

There are exceptions i.e. dogs with existing glandular problems. This is one of the reasons I urge dog owners to take their dogs into a vet for an annual health check-up. If there is a glandular problem it can be detected by a simple blood test and dealt with.

You can tell if a dog is overweight by this one simple test: If you are looking down on the dog's back as it walks away from you and you can not see an hour-glass indent in front of the dog's haunches - THE DOG IS OVER WEIGHT. Since it only takes one or two pounds of extra weight to cut years from a dogs life I urge you to keep the extra weight off the animals you love.

If you are cooking one of the recipes in this book for your German Shepherd Dog and notice that it is getting a little heavy you can cut back on the amount fed at each meal by dividing the recipe into meals for eight days instead of seven. This will keep the nutrient balance in tact while only changing the amount fed. If a dog needs to gain weight, this too can be controlled by the amount you feed the dog. A dog who's ribs are showing may need to gain a little and this can be accomplished by increasing the amount the dog is fed. By using the amount prepared in one of the recipes in this book in six days instead of seven a normal German Shepherd Dog should put on a pound or two in a few weeks. By controlling the amount (both in the dish and given as treats) we can control the dogs weight.

By using portion control and a good exercise regimen a dog owner can keep their dog at a HEALTHY WEIGHT and give their loved one a quality of life which will last for many additional years.

NUTRIENTS “GOOD FOR A HUMAN” THAT CAN HARM A GERMAN SHEPHERD DOG

There are many nutritional similarities between a dog and a human, but we also have many differences. The human has an average of 32 permanent teeth (with structural differences depending on the race). The dog has an average of 42 permanent teeth (with structural differences depending on the breed). The human has a long gastrointestinal tract consisting of both a large and a small intestine. The dog has a short gastrointestinal tract consisting of a single colon. Similar glands found within both humans and canines are located differently within their respective digestive systems and some glands, such as the liver, perform different functions. The human has starch breaking enzymes in the saliva, the dog does not. The human can store carbohydrates for energy, the dog can not. The human can receive bio-nutritive value from protein containing 8 essential amino acids, the dog requires 10 essential amino acids to receive bio-nutritive value. A stimulant in chocolate called theobromine can be deadly for dogs but not for humans. Etc.

Because of the differences, there are certain nutrients beneficial when they are in a human's dietary intake that can be harmful in a German Shepherd Dog's dietary intake. Two of the most common nutrients I have found in commercial canine dietary products that fall into this category are Fluoride and Vitamin C.

Fluoride:

Fluoride, as sodium fluoride, was added to the water of most commercial sources within the U.S. after extensive research showed that it hardened the tooth enamel in children and thus helped to prevent tooth decay. However, the same type of research has been performed on the dog, with the results being quite different. To find some research with fluoride and canines we need to look into the history books. In 1936 (Biester et. al.) conducted research showing that the addition of fluoride to the water supply of canines caused mottling of the tooth enamel during the period of calcification of the permanent teeth. In 1959 (Andreeva) reported findings that the addition of fluoride at 20 milligrams per kilogram of body weight daily for 92 days to the diet of month-old pups altered serum calcium and inorganic and organic phosphorus concentrations significantly.

There are many other tests that show fluoride can cause many nutritionally related problems. Fluoride should not be included within the dietary intake of any breed of dog.

Therefore, I suggest that you filter the German Shepherd Dog's water supply to eliminate the fluoride. This can be done by adding an inexpensive filter to the water supply for the kennel. By properly locating the filter you can remove the fluoride from the dog's water while leaving the fluoride in the main water supply to meet the human's needs. Be sure to check with the company that makes the filter you are considering to see if it removes the fluoride (some do and some do not).

Another option is to buy bottled water that does not contain fluoride for your German Shepherd Dog. This is what I do for my own companion.

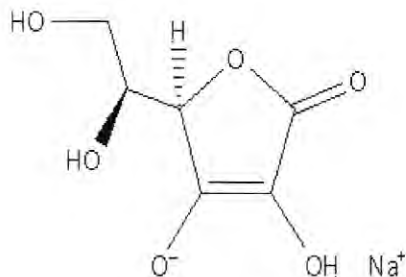
Vitamin C:

Vitamin C is an essential nutrient for all mankind. However, one of the most common errors when looking at this one vitamin is to think that all vitamin C is the same. Often vitamin C is referred to as ascorbic acid, or vice versa, even though **ascorbic acid is only one form of vitamin C**. Ascorbic acid is the most common synthetic form used in the U. S. and is also found in both a "L" and a "D" form. Since the "D" form is unsafe for human use, only the "L" form is sold commercially. L. Pauling in his book VITAMIN C AND THE COMMON COLD discusses both the "L" and "D" forms of ascorbic acid. THE MERCK INDEX, an encyclopedia of chemicals and drugs, also lists these two forms

The three most common synthetic forms of vitamin C sold in the U. S. are Ascorbic Acid ($C_6H_8O_6$), Calcium Ascorbate ($C_{12}H_{14}CaO_{12}$), and Sodium Ascorbate ($C_6H_7NaO_6$). Note that the molecular forms are all different. In addition, none of these forms are the same as the natural vitamin C found in fresh fruit. They also differ from the vitamin C that a dog and certain other animals can manufacture within their glandular systems.



L-Ascorbic Acid



Sodium Ascorbate

Another common error associated with vitamin C is to assume that the human and the German Shepherd Dog are both the same in their dietary need of this nutrient. A very basic difference between dogs and humans is found in their glandular systems. Using the trace mineral form of Cobalt as the primary element, when all the other trace minerals are present within their diet, **the German Shepherd Dog's liver has the ability to synthesize the cobalt to produce the vitamin C that its body requires**. The human glandular system is not capable of producing its own vitamin C. For this reason, it is **essential for humans, but not a German Shepherd Dog**, to include vitamin C in their dietary intake.

As an interesting side light I note: The source of the vitamin C that a human should use in their dietary intake also can be an important factor. A recent study conducted by the University of Oregon (1987), discovered that the American Eskimo people are unable to use the synthetic forms of vitamin C. This includes ascorbic acid, or even those natural forms found in fresh fruit to prevent the onset of scurvy. However, they are able to prevent scurvy by eating seal blubber that contains a special and unique molecular form of vitamin C. The seal produces this form of vitamin C in much the same way that a dog does by synthesizing trace minerals in the liver. The seal then stores this "fat soluble" form of vitamin C in the blubber, just under the skin. This fat soluble form, which is stored in seal blubber, is also different in its molecular structure than ascorbil palmitate, a commercial synthetic "fat soluble" vitamin C.

Research done with dogs documenting their vitamin C requirements is readily available. For example, the government has published the results from research projects with vitamin C in their 1985 revision of the NRC NUTRIENT REQUIREMENTS OF DOGS. On pages 37 and 38 of the NRC publication they cite twenty five **carefully controlled studies**. An excerpt says: "and some veterinary practitioners apparently advocate vitamin C for - - -", and continues "- - - conducted some carefully controlled studies concerned with these issues and established that exogenous vitamin C was of no benefit. " One controlled study cited in the NRC showed that supplemental vitamin C aggravated skeletal disease in puppies. From these **controlled studies** the government subcommittee on animal nutrition states: *"It is concluded that there is no adequate evidence to justify recommendation of routine vitamin C additions to the diet of the normal dog."*

Other studies have shown that supplemental vitamin C from the ascorbic acid source can create a pH imbalance in the dog's kidney. This is due to ascorbic **acid**, which is "water soluble", being discharged through the kidney. These studies also show where this change in the urinary tract pH can negatively affect the use of many other essential nutrients.

Another negative aspect of giving vitamin C to a healthy dog is the risk taken when we replace one of the functions of a healthy dog's liver (producing the vitamin C that its own body requires). **By adding vitamin C to the dog's diet we can cause the dog's liver to stop working as it should.** This can best be equated to feeding thyroid medication to a dog with a normal thyroid gland.

The Morris Animal Foundation in 1987 released the findings of a survey determining the main causes of dogs' deaths in the United States. The second and sixth leading causes cited in that report were kidney disorders and liver failure. I cannot help but wonder at the connection between these statistics and the use of ascorbic acid in dog food or dog food supplements.

Even after all the negative test results cited by the National Research Council, many dog food manufacturers still add ascorbic acid to their dog foods. These test results have been confirmed by companies within the dog food industry itself. One company; Gains Pet Food Corp., has published a book titled BASIC GUIDE TO CANINE NUTRITION. On page 21 in their fifth edition of that book they state: "Vitamin C (ascorbic acid) is not required in the diet of dogs as it is in the diets of primates, guinea pigs, bats and some fish, birds, and insects. The dog and other animals are able to synthesize this vitamin."

Why do many dog food manufacturers have ascorbic acid in their foods? The reason is ascorbic acid is an antioxidant. As an antioxidant, ascorbic acid is a commonly used cheap preservative that has been used for years to keep foods fresh, color additives bright, and to keep the fats within the foods from going rancid. It is a cheap preservative that most *people* can assimilate. Therefore, people formulating dog foods, who do not know there is a nutritional difference between dogs and humans, *assume* it to be a "safe" preservative. The other scenario is that it is being used by people formulating dog foods who are aware of the harm it can do. But these people are more concerned about keeping the colors in their food bright and appealing for the buyer, rather than the actual health of the dogs that are eating it.

Manufacturers of commercial dog foods must remember that when formulating a food for dogs, **the finished food product is for a dog and not for human consumption.** The dog and the human are two different species of animal. We may have similarities, but we also have our differences. Therefore, the food should provide the nutrients that a dog requires and should not contain nutrients that can be detrimental to the animal for which it is formulated.

LIFE CYCLE CHANGES THAT CHANGE NUTRITIONAL REQUIREMENTS OF A GERMAN SHEPHERD DOG

As your German Shepherd Dog goes through different stages of the life cycle, its nutritional needs change substantially. Here are a few guidelines to follow for: (1) puppies, (2) the adolescent growth stage, (3) the maintenance years, (4) pregnant and lactating bitches, (5) the geriatric stage of life and (6) nutritional changes due to stress.

(1) Puppies

After weaning, feed each puppy a high fat and carbohydrate diet in small dosages 3 or 4 times per day. Remember a pup's nutritional requirements can be *6 to 10 times* more than adult maintenance requirements *per-kilogram of body weight*. This includes requirements for most vitamins and minerals when measured on a *per-kilogram of body weight* basis. This means an active 6 pound puppy can use close to the same dose as a 60 pound adult dog.

(2) The Adolescent Growth Stage

Once the German Shepherd Dog has reached its adolescent growth stage you can change the feeding schedule to twice per day. The German Shepherd Dog should still be considered as adolescents (nutritionally speaking) even after they have reached a body size where most commercial foods recommend feeding them as an adult. To treat them as adults, just because they have the body size of an adult, can rob them of nutrients that their body still requires to build good bones, teeth, muscles, coats, etc. So remember that your German Shepherd Dog may **look** like an adult but should be **nutritionally treated as an adolescent dog** until it has reached the adult maintenance stage of life **regardless of its body size**.

(3) The Maintenance Years

When the German Shepherd Dog has developed to the adult stage of life it should be placed on a maintenance diet that will supply its dietary requirements under normal living conditions. This period could be called the "carefree years for feeding" for the average dog owner. The feeding times can be reduced to once daily and the amount should remain constant. Problems are few but normally arise from either a change of diet or the owner killing the dog through ignorance (*but with love*) by giving it unhealthy treats such as table scraps, cookies, etc. We should remember that the maintenance years are just what the words say; they are a time to maintain a steady dietary program.

(4) Pregnant Bitches

In the first two trimesters of pregnancy, a bitch's nutritional requirements change very little and she should be maintained on her normal maintenance diet. However, in the third trimester the needs of a pregnant German Shepherd Dog change dramatically and I recommend the following adjustments in her daily dietary program: Begin to feed her more frequently, but decrease the amount of food given at each feeding. Increase the carbohydrate content of the food and adjust the protein in her diet. This can be done by putting her on the diet prepared by the appropriate recipe in this book. You should also change the supplementation by using the guidelines in this book. **Do not imbalance her system with additional calcium or any other single mineral.**

(4) Pregnant Bitches (continued)

The balance of minerals is very important during this time both for the mother and the puppies. Continue with these changes until the puppies are weaned. After the puppies are weaned and her milk supply dries up, return the bitch to her standard maintenance dietary program.

(5) The Geriatric Stage of Life

Just as some breeds develop slower and need to be kept on a puppy formula longer, there are some breeds that reach the geriatric stage of life at later or earlier times than the *average breed*. When a German Shepherd Dog reaches this stage, it becomes more difficult for it to convert protein to energy and they are normally not as active. Therefore, the protein amount in its daily food intake should be lower and the proportions of carbohydrates should be higher. Dogs reaching the geriatric stage also should be fed the diet prepared by the appropriate recipe in this book. By changing their food to a higher carbohydrate lower protein blend and increasing their feeding schedule to more than once daily, etc., you can prolong their life and make it more enjoyable.

(6) Nutritional Changes Due To Stress and other factors

Often we create stress situations for our dogs without realizing it. At these times of stress the nutritional requirements can change dramatically in many ways. Two of these changes would be burning calories at a different rate and losing excessive amounts of body waters. Therefore, we must be aware of the types of situations that can cause stress in our dogs and be prepared to help them nutritionally through these times. An obvious stress situation would include the time of gestation and lactation for a bitch, with the birthing adding still more stress on her for that special time. However, other times of stress can be caused by a visit to the vet, entering a dog show, schooling, hunting or even vacation travel.

Not all times of relaxation for the dogs owner are times of relaxation for our pets. Dogs can experience stress any time their normal routine is changed. Also, like humans, different individuals will handle the stress differently. During these times of stress there are a few simple nutritional rules to follow. First be sure they have access to a good supply of water and do not over feed them with high protein foods. Remember that it is more work for their system to convert protein into energy than it is to convert carbohydrates. Therefore you should increase the carbohydrate % in the daily food intake. This can be done by giving them treats such as baked potatoes, or pancakes, during the job or on the way to the show, etc. Remember different breeds can assimilate carbohydrates from different sources at different rates. Therefore, you need to give the source of carbohydrate that is best for the German Shepherd Dog.

Here I also caution you about supplementation. If you are going to replace the B vitamins (known as "the stress vitamins") during this time, be sure you also remember that there is an association between the B vitamins and many other nutrients. It is critical. Therefore, you should deal with the stress vitamins as a part of a nutritional team and not create nutritional stress by supplementing the B vitamins alone.

A HOME HEALTH CHECK FOR SYMPTOMS OF NUTRITIONAL PROBLEMS

You can tell whether a German Shepherd Dog is getting good nutrition, IF you know what to look for. When you see the exterior results of good nutrition, you can be confident that the internal organs and systems are also healthy. Good nutrition helps your dog resist infections and disease so that it can live a longer, more productive life.

EYE COLOR

(membrane under lower lid)

Indicates proper assimilation of - Iron and other minerals

If poor - light or white in color

If good - darker in color (pink to red)

GUMS AND MOUTH TISSUE

(color and firmness)

Indicates proper assimilation of - Vitamins, minerals and amino acids

If poor - loose on teeth, bleeding, light color, white spots

If good - firm on teeth, no bleeding when rubbed, darker color

SKIN CONDITION

Indicates proper assimilation of - Protein and fatty acids

If poor - dry, flaky, or can develop "hot spots"

If good - smooth and pliable

SKIN CONDITION

Indicates proper amounts of fluids

If poor - hangs on body, is not pliable

If good - returns to body shape when pulled away

COAT CONDITION

Indicates proper assimilation of - Protein and fatty acids

If poor - dry, brittle, dull in color

If good - soft, glossy, bright color

ENERGY LEVEL

Indicates proper assimilation of - Vitamins and Minerals

If poor - listless and tires easily

If good - more energetic

or

If poor - nervous to "hyper"

If good - calmer and less nervous

MUSCLE TONE

*Indicates proper assimilation of - Vitamins, minerals
and trace minerals*

If poor - cramping after prolonged or strenuous exercise

If good - reduced muscle cramping from strenuous exercise

A note of caution: Please do not rely on nutritional home remedies for your dog if your dog needs the attention of a veterinarian.

WARNING

One of the biggest problems a “dog” owner faces today is that someone who has had an experience (positive or negative) by feeding one breed tells all dog owners that they should or should not feed (X) because of the experience they had. We must remember that what they experienced was related to the nutritional morphologies of their one breed and that the different breeds have different nutritional needs.

Please do not use the recipe or supplement charts found in this book for any other breed of dog than the German Shepherd Dog.

The following pages contain recipes and supplementation charts so that a German Shepherd Dog owner can prepare their companion pet a diet that contains NO PRESERVATIVES but will provide their German Shepherd Dog with all the nutrients it needs.

NOTE:

The current AKC breed standards for a German Shepherd Dog were used when formulating the recipes in this book (shown on page 5). If your dog is genetically larger or smaller than the AKC standards (not just overweight) you should adjust the amounts of each ingredient proportionately. You can do this by dividing your dog's weight by the breed standard weight and then use the % derived to multiply the amount of an ingredient in the recipe.

$$\frac{\text{Your Dog's Weight}}{\text{AKC Weight}} \times \text{Amount of ingredient listed} = \text{Amount of ingredient to use}$$

NOTE #2:

Supplementation of the basic recipe is not required to provide your dog with an adequate diet. If you choose to supplement you are insured of providing your dog with an IDEAL DIET. All supplementation of the basic recipes should be limited to the ingredient SOURCES and amounts listed on the charts in this book.

A Recipe For A German Shepherd Dog Puppy

Can be used for either a Dog or Bitch up to 4 months of age

This recipe and attached food supplement chart SHOULD NOT BE USED FOR ANY OTHER BREED OF DOG SINCE EACH HAS ITS OWN SET OF NUTRITIONAL REQUIREMENTS.

Step 1

For each animal being fed place the following into a Wok or large fry pan:

- 1 1/4 pounds ground beef (20-22% fat)
- 1 pound ground or chopped chicken meat (22-24% fat - with skin)
- 8 ounces fresh cabbage (chopped into small pieces or shredded)
- 14 ounces yellow or acorn squash (pre cooked and frozen is OK)
- 4 pounds russet potatoes (cut into small cubes or shredded)
- 16 ounces chopped broccoli (fresh is best but frozen is OK)
- 12 ounces fresh carrots (ground into a fine pulp)
- 1 1/2 cups canola oil

Cook on stove top using medium heat (stirring as needed) until all ingredients are fully cooked. Then let cool.

Step 2

To the cool cooked ingredients add:

- 9 finely chopped slices whole wheat bread
- 12 ounces shredded cheddar cheese
- 3 ounces cottage cheese (small curd 4% milk fat)
- 1 1/4 teaspoons garlic powder (do not use a salt based product)

Step 3

Mix all ingredients together, divide into twenty-one reusable containers (this is so that you will have a full week's supply of food ready to feed with a 3 meal a day feeding schedule).

Step 4

Place containers in the refrigerator.

Last step

Prior to each serving of food add:

- 1/3 the daily dose of food supplements (the ideal amounts of vitamins, minerals, supplemental amino acids, fatty acids and base ingredients are listed on the appropriate chart).
- 1 to 2 teaspoons 100% Natural Rolled Oats (Quick Quaker Oats). This is added at the very last since we want the swelling of the oats to occur in the animal's gut and not in the storage container. If you see any signs of constipation when it is having a bowel movement cut down the amount of 100% Natural Rolled Oats. They are included in the diet to slow the food's passage in the gut - not impact it.

The Food Supplement Chart For A German Shepherd Dog Puppy

Either a male or female up to 4 months of age

SUPPLEMENTAL VITAMINS

Vitamin	&	Best Source	RDA:
Vitamin A		Palmitate	3,840.0 I.U.
Vitamin B-1		Thiamine Hcl & Yeast	1.2 mg
Vitamin B-2		Riboflavin & Yeast	1.9 mg
Vitamin B-6		Pyridoxine Hcl & Yeast	1.2 mg
Vitamin B-12		Cyanocobalamin & Yeast	19.2 mcg
Vitamin D		D-activated Sterol	384.0 I.U.
Vitamin E		dl-alpha tocopherol acetate	60.0 I.U.
Niacinamide			4.8 mg
Biotin			72.0 mcg
Folic Acid			156.0 mcg
d-Calcium Pantothenate			1.4 mg
Para Amino Benzoic Acid			1.4 mg

SUPPLEMENTAL MINERALS

Mineral	&	Best Source	RDA:
Calcium		Bone Meal	108.0 mg
Copper		Gluconate	5.8 mg
Iodine		Sea Kelp	21.2 mcg
Iron		Ferrous Fumerate	4.8 mg
Magnesium		Magnesium-Gluconate	3.8 mg
Manganese		Manganese-Gluconate	3.8 mg
Phosphorus		Bone Meal	48.0 mg
Potassium		Potassium-Gluconate	3.8 mg
Zinc		Zinc-Gluconate	3.8 mg

SUPPLEMENTAL AMINO ACIDS

	RDA:
L Lysine	24.0 mg
D.L. Methionine	24.0 mg

SUPPLEMENTAL FATTY ACIDS

Acid	&	Best Source	RDA:
Oleic Acid		Flax Seed	3.5 mg
Linolenic Acid		Flax Seed	1.2 mg
Linoleic Acid		Flax Seed	5.0 mg

Good Supplement Base Ingredients

	RDA:
Alfalfa Leaf	25.0 mg
Beef Liver	25.0 mg
Comfrey Leaf	25.0 mg
Comfrey Root	25.0 mg
Selenium Yeast	38.0 mg

SPECIAL NOTES:

All Recommended Daily Amounts (RDA:) are based on average breed weights, activity levels and "pet status" living environments. This breed of dog should not receive any supplemental vitamin C since it could cause kidney and liver problems. This breed should also avoid all coat conditioners containing soy lecithin.

A Recipe For An Adolescent Female German Shepherd Dog

Should be used for a Bitch from 4 months to 30 months of age

This recipe and attached food supplement chart SHOULD NOT BE USED FOR ANY OTHER BREED OF DOG SINCE EACH HAS ITS OWN SET OF NUTRITIONAL REQUIREMENTS.

Step 1

For each animal being fed place the following into a Wok or large fry pan:

- 2 pounds ground beef (20-22% fat)
- 1 1/3 pounds ground or chopped chicken meat (22-24% fat - with skin)
- 4 ounces yellow or acorn squash (pre cooked and frozen is OK)
- 6 3/4 pounds russet potatoes (cut into small cubes or shredded)
- 16 ounces chopped broccoli (fresh is best but frozen is OK)
- 7 ounces fresh carrots (ground into a fine pulp)
- 12 ounces fresh cabbage (chopped into small pieces or shredded)
- 3/4 cup canola oil

Cook on stove top using medium heat (stirring as needed) until all ingredients are fully cooked. Then let cool.

Step 2

To the cool mix add:

- 10 finely chopped slices whole wheat bread
- 8 ounces shredded cheddar cheese
- 2 teaspoons garlic powder (do not use a salt based product)

Step 3

Mix all ingredients together, divide into fourteen reusable containers (this is so that you will have a full week's supply of food ready to feed with a 2 meal a day feeding schedule).

Step 4

Place containers in the refrigerator.

last step

Prior to each serving of food add:

- 1/2 the daily dose of food supplements (the ideal amounts of vitamins, minerals, supplemental amino acids, fatty acids and base ingredients are listed on the appropriate chart).
- 1 to 2 teaspoons 100% Natural Rolled Oats (Quick Quaker Oats). This is added at the very last since we want the swelling of the oats to occur in the animal's gut and not in the storage container. If you see any signs of constipation when it is having a bowel movement cut down the amount of 100% Natural Rolled Oats. They are included in the diet to slow the food's passage in the gut - not impact it.

The Food Supplement Chart

For An Adolescent Female German Shepherd Dog

from 3 months of age to 30 months of age

SUPPLEMENTAL VITAMINS

Vitamin &	Best Source	RDA:
Vitamin A	Palmitate	10,000.0 I.U.
Vitamin B-1	Thiamine Hcl & Yeast	3.1 mg
Vitamin B-2	Riboflavin & Yeast	5.0 mg
Vitamin B-6	Pyridoxine Hcl & Yeast	3.1 mg
Vitamin B-12	Cyanocobalamin & Yeast	50.0 mcg
Vitamin D	D-activated Sterol	1000.0 I.U.
Vitamin E	dl-alpha tocopherol acetate	156.2 I.U.
Niacinamide		12.5 mg
Biotin		187.5 mcg
Folic Acid		406.2 mcg
d-Calcium Pantothenate		3.8 mg
Para Amino Benzoic Acid		3.8 mg

SUPPLEMENTAL MINERALS

Mineral &	Best Source	RDA:
Calcium	Bone Meal	281.2 mg
Copper	Gluconate	15.0 mg
Iodine	Sea Kelp	31.2 mcg
Iron	Ferrous Fumerate	12.5 mg
Magnesium	Magnesium-Gluconate	10.0 mg
Manganese	Manganese-Gluconate	10.0 mg
Phosphorus	Bone Meal	125.0 mg
Potassium	Potassium-Gluconate	10.0 mg
Zinc	Zinc-Gluconate	10.0 mg

SUPPLEMENTAL AMINO ACIDS

	RDA:
L Lysine	50.0 mg
D.L. Methionine	50.0 mg

SUPPLEMENTAL FATTY ACIDS

Acid &	Best Source	RDA:
Oleic Acid	Flax Seed	9.0 mg
Linolenic Acid	Flax Seed	3.0 mg
Linoleic Acid	Flax Seed	13.0 mg

Good Supplement Base Ingredients

	RDA:
Alfalfa Leaf	25.0 mg
Beef Liver	25.0 mg
Comfrey Leaf	25.0 mg
Comfrey Root	25.0 mg
Selenium Yeast	37.5 mg

SPECIAL NOTES:

All Recommended Daily Amounts (RDA:) are based on average breed weights, activity levels and "pet status" living environments. This breed of dog should not receive any supplemental vitamin C since it could cause kidney and liver problems. This breed should also avoid all coat conditioners containing soy lecithin.

A Recipe For An Adolescent Male German Shepherd Dog

Should be used for a Dog from 4 months to 32 months of age

This recipe and attached food supplement chart SHOULD NOT BE USED FOR ANY OTHER BREED OF DOG SINCE EACH HAS ITS OWN SET OF NUTRITIONAL REQUIREMENTS.

Step 1

For each animal being fed place the following into a Wok or large fry pan:

- 2 pounds ground beef (20-22% fat)
- 1 1/2 pounds ground or chopped chicken meat (22-24% fat - with skin)
- 14 ounces yellow or acorn squash (pre cooked and frozen is OK)
- 6 1/2 pounds russet potatoes (cut into small cubes or shredded)
- 16 ounces chopped broccoli (fresh is best but frozen is OK)
- 6 ounces fresh carrots (ground into a fine pulp)
- 12 ounces fresh cabbage (chopped into small pieces or shredded)
- 1 cup canola oil

Cook on stove top using medium heat (stirring as needed) until all ingredients are fully cooked. Then let cool.

Step 2

To the cool mix add:

- 9 finely chopped slices whole wheat bread
- 7 ounces shredded cheddar cheese
- 2 teaspoons garlic powder (do not use a salt based product)

Step 3

Mix all ingredients together, divide into fourteen reusable containers (this is so that you will have a full week's supply of food ready to feed with a 2 meal a day feeding schedule).

Step 4

Place containers in the refrigerator.

Last step

Prior to each serving of food add:

- 1/2 the daily dose of food supplements (the ideal amounts of vitamins, minerals, supplemental amino acids, fatty acids and base ingredients are listed on the appropriate chart).
- 1 to 2 teaspoons 100% Natural Rolled Oats (Quick Quaker Oats). This is added at the very last since we want the swelling of the oats to occur in the animal's gut and not in the storage container. If you see any signs of constipation when it is having a bowel movement cut down the amount of 100% Natural Rolled Oats. They are included in the diet to slow the food's passage in the gut - not impact it.

The Food Supplement Chart

For An Adolescent Male German Shepherd Dog

from 3 months of age to 32 months of age

SUPPLEMENTAL VITAMINS

Vitamin	&	Best Source	RDA:
Vitamin A		Palmitate	8,800.0 I.U.
Vitamin B-1		Thiamine Hcl & Yeast	2.8 mg
Vitamin B-2		Riboflavin & Yeast	4.4 mg
Vitamin B-6		Pyridoxine Hcl & Yeast	2.8 mg
Vitamin B-12		Cyanocobalamin & Yeast	44.0 mcg
Vitamin D		D-activated Sterol	880.0 I.U.
Vitamin E		dl-alpha tocopherol acetate	137.5 I.U.
Niacinamide			11.0 mg
Biotin			165.0 mcg
Folic Acid			357.5 mcg
d-Calcium Pantothenate			3.3 mg
Para Amino Benzoic Acid			3.3 mg

SUPPLEMENTAL MINERALS

Mineral	&	Best Source	RDA:
Calcium		Bone Meal	247.5 mg
Copper		Gluconate	13.2 mg
Iodine		Sea Kelp	27.5 mcg
Iron		Ferrous Fumerate	11.0 mg
Magnesium		Magnesium-Gluconate	8.8 mg
Manganese		Manganese-Gluconate	8.8 mg
Phosphorus		Bone Meal	110.0 mg
Potassium		Potassium-Gluconate	8.8 mg
Zinc		Zinc-Gluconate	8.8 mg

SUPPLEMENTAL AMINO ACIDS

	RDA:
L Lysine	30.0 mg
D.L. Methionine	30.0 mg

SUPPLEMENTAL FATTY ACIDS

Acid	&	Best Source	RDA:
Oleic Acid		Flax Seed	7.9 mg
Linolenic Acid		Flax Seed	2.6 mg
Linoleic Acid		Flax Seed	11.4 mg

Good Supplement Base Ingredients

	RDA:
Alfalfa Leaf	25.0 mg
Beef Liver	25.0 mg
Comfrey Leaf	25.0 mg
Comfrey Root	25.0 mg
Selenium Yeast	37.5 mg

SPECIAL NOTES:

All Recommended Daily Amounts (RDA:) are based on average breed weights, activity levels and "pet status" living environments. This breed of dog should not receive any supplemental vitamin C since it could cause kidney and liver problems. This breed should also avoid all coat conditioners containing soy lecithin.

Recipe #1 For An Adult Female German Shepherd Dog

Should be used for a spayed bitch from age 30 months to 15 years
living as a typical house pet & Companion Animal

This recipe and attached food supplement chart SHOULD NOT BE USED FOR ANY OTHER BREED OF DOG SINCE EACH HAS ITS OWN SET OF NUTRITIONAL REQUIREMENTS.

Step 1

For each animal being fed place the following into a large baking pan:

- 3 pounds ground beef (20-22% fat)
- 1 1/4 pounds ground or chopped chicken meat (18-20% fat - no skin)
- 8 ounces yellow corn (this MUST be ground into a fine pulp)
- 7 1/4 pounds russet potatoes (cut into small cubes or shredded)
- 1 cup canola oil

Pres set oven to 350 degrees. Place pan in oven and cook for 1 hour and 20 minutes.
Remove from oven and cool..

Step 2

To the cool cooked ingredients add:

- 14 ounces fresh cabbage (chopped into small pieces or shredded)
- 10 ounces chopped broccoli (fresh is best but frozen is OK)
- 7 ounces fresh carrots (ground into a fine pulp)
- 8 finely chopped slices whole wheat bread
- 9 ounces shredded cheddar cheese
- 1 1/2 teaspoons garlic powder (do not use a salt based product)

3rd step:

Mix all ingredients together, divide into fourteen reusable containers (this is so that you will have a full week's supply of food ready to feed with a 2 meal a day feeding schedule).

4th step

Place containers in the refrigerator.

Last step

Prior to each serving of food add:

- 1/2 the daily dose of food supplements (the ideal amounts of vitamins, minerals, supplemental amino acids, fatty acids and base ingredients are listed on the appropriate chart).
- 1 to 2 teaspoons 100% Natural Rolled Oats (Quick Quaker Oats). This is added at the very last since we want the swelling of the oats to occur in the animal's gut and not in the storage container. If you see any signs of constipation when it is having a bowel movement cut down the amount of 100% Natural Rolled Oats. They are included in the diet to slow the food's passage in the gut - not impact it.

Recipe #1 For An Adult Male German Shepherd Dog

Should be used for a Dog from age 32 months to 14 years
living as a typical house pet & companion animal

This recipe and attached food supplement chart SHOULD NOT BE USED FOR ANY OTHER BREED OF DOG SINCE EACH HAS ITS OWN SET OF NUTRITIONAL REQUIREMENTS.

Step 1

For each animal being fed place the following into a large baking pan:

- 3 1/4 pounds ground beef (18-20% fat)
- 1 1/4 pounds ground or chopped chicken meat (18-20% fat - no skin)
- 12 ounces yellow or acorn squash (pre cooked and frozen is OK)
- 9 ounces yellow corn (this MUST be ground into a fine pulp)
- 7 pounds russet potatoes (cut into small cubes or shredded)
- 3/4 cup canola oil

Pres set oven to 350 degrees. Place pan in oven and cook for 1 hour and 20 minutes.
Remove from oven and cool..

Step 2

To the cool cooked ingredients add:

- 14 ounces fresh cabbage (chopped into small pieces or shredded)
- 10 ounces chopped broccoli (fresh is best but frozen is OK)
- 7 ounces fresh carrots (ground into a fine pulp)
- 10 finely chopped slices whole wheat bread
- 6 ounces shredded cheddar cheese
- 2 teaspoons garlic powder (do not use a salt based product)

Step 3

Mix all ingredients together, divide into fourteen reusable containers (this is so that you will have a full week's supply of food ready to feed with a 2 meal a day feeding schedule).

4th step

Place containers in the refrigerator.

Last step

Prior to each serving of food add:

- 1/2 the daily dose of food supplements (the ideal amounts of vitamins, minerals, supplemental amino acids, fatty acids and base ingredients are listed on the appropriate chart).
- 1 to 2 teaspoons 100% Natural Rolled Oats (Quick Quaker Oats). This is added at the very last since we want the swelling of the oats to occur in the animal's gut and not in the storage container. If you see any signs of constipation when it is having a bowel movement cut down the amount of 100% Natural Rolled Oats. They are included in the diet to slow the food's passage in the gut - not impact it.

Food Supplement Chart #2

For An Adult German Shepherd Dog Bitch

Should be used for an intact Bitch from age 28 months to 14 years
living as a Working - Companion Animal

SUPPLEMENTAL VITAMINS

Vitamin	&	Best Source	RDA:
Vitamin A		Palmitate	9,680.0 I.U.
Vitamin B-1		Thiamine Hcl & Yeast	3.6 mg
Vitamin B-2		Riboflavin & Yeast	5.7 mg
Vitamin B-6		Pyridoxine Hcl & Yeast	3.6 mg
Vitamin B-12		Cyanocobalamin & Yeast	61.6 mcg
Vitamin D		D-activated Sterol	1056.0 I.U.
Vitamin E		dl-alpha tocopherol acetate	192.5 I.U.
Niacinamide			14.3 mg
Biotin			214.2 mcg
Folic Acid			637.0 mcg
d-Calcium Pantothenate			5.3 mg
Para Amino Benzoic Acid			5.3 mg

SUPPLEMENTAL MINERALS

Mineral	&	Best Source	RDA:
Calcium		Bone Meal	297.0 mg
Copper		Gluconate	15.8 mg
Iodine		Sea Kelp	33.0 mcg
Iron		Ferrous Fumerate	15.4 mg
Magnesium		Magnesium-Gluconate	10.6 mg
Manganese		Manganese-Gluconate	10.6 mg
Phosphorus		Bone Meal	132.0 mg
Potassium		Potassium-Gluconate	10.6 mg
Zinc		Zinc-Gluconate	10.6 mg

SUPPLEMENTAL AMINO ACIDS

	RDA:
L Lysine	55.0 mg
D.L. Methionine	55.0 mg

SUPPLEMENTAL FATTY ACIDS

Acid	&	Best Source	RDA:
Oleic Acid		Flax Seed	7.9 mg
Linolenic Acid		Flax Seed	2.6 mg
Linoleic Acid		Flax Seed	11.4 mg

Good Supplement Base Ingredients

	RDA:
Alfalfa Leaf	55.0 mg
Beef Liver	55.0 mg
Comfrey Leaf	55.0 mg
Comfrey Root	55.0 mg
Selenium Yeast	82.5 mg

SPECIAL NOTES:

All Recommended Daily Amounts (RDA:) are based on average breed weights, activity levels and "a working status" living environment. This breed of dog should not receive any supplemental vitamin C since it could cause kidney and liver problems. This breed should also avoid all coat conditioners containing soy lecithin.

Recipe #2 For An Adult Female German Shepherd Dog

Should be used for an intact Bitch from age 28 months to 14 years
living as a Working - Companion Animal

This recipe and attached food supplement chart SHOULD NOT BE USED FOR ANY OTHER BREED OF DOG SINCE EACH HAS ITS OWN SET OF NUTRITIONAL REQUIREMENTS.

Step 1

For each animal being fed place the following into a large baking pan:

- 2 3/4 pounds ground beef (20-22% fat)
- 1 1/2 pounds ground or chopped chicken meat (20-22% fat - with skin)
- 8 ounces yellow corn (ground into a fine pulp)
- 7 1/2 pounds russet potatoes (cut into small cubes or shredded)
- 1 cup canola oil

Preset oven to 350 degrees. Place pan in oven and cook for 1 hour and 20 minutes.
Remove from oven and cool.

Step 2

To the cool cooked ingredients add:

- 12 ounces fresh cabbage (chopped into small pieces or shredded)
- 12 ounces fresh broccoli stems (chopped into small pieces or shredded)
- 8 ounces fresh carrots (ground into a fine pulp)
- 9 finely chopped slices whole wheat bread
- 10 ounces shredded cheddar cheese
- 2 teaspoons garlic powder (do not use a salt based product)

Step 3

Mix all ingredients together, divide into fourteen reusable containers (this is so that you will have a full week's supply of food ready to feed with a 2 meal a day feeding schedule).

4th step

Place containers in the refrigerator.

Last step

Prior to each serving of food add:

- 1/2 the daily dose of food supplements (the ideal amounts of vitamins, minerals, supplemental amino acids, fatty acids and base ingredients are listed on the appropriate chart).
- 1 to 2 teaspoons 100% Natural Rolled Oats (Quick Quaker Oats). This is added at the very last since we want the swelling of the oats to occur in the animal's gut and not in the storage container. If you see any signs of constipation when it is having a bowel movement cut down the amount of 100% Natural Rolled Oats. They are included in the diet to slow the food's passage in the gut - not impact it.

Food Supplement Chart #1

For An Adult German Shepherd Dog Bitch

Should be used for a spayed bitch from age 30 months to 15 years
living as a typical house pet & companion animal

SUPPLEMENTAL VITAMINS

Vitamin	&	Best Source	RDA:
Vitamin A		Palmitate	8,800.0 I.U.
Vitamin B-1		Thiamine Hcl & Yeast	2.5 mg
Vitamin B-2		Riboflavin & Yeast	4.1 mg
Vitamin B-6		Pyridoxine Hcl & Yeast	2.5 mg
Vitamin B-12		Cyanocobalamin & Yeast	44.0 mcg
Vitamin D		D-activated Sterol	880.0 I.U.
Vitamin E		dl-alpha tocopherol acetate	137.5 I.U.
Niacinamide			10.2 mg
Biotin			153.0 mcg
Folic Acid			455.0 mcg
d-Calcium Pantothenate			3.3 mg
Para Amino Benzoic Acid			3.3 mg

SUPPLEMENTAL MINERALS

Mineral	&	Best Source	RDA:
Calcium		Bone Meal	247.5 mg
Copper		Gluconate	13.2 mg
Iodine		Sea Kelp	27.5 mcg
Iron		Ferrous Fumerate	11.0 mg
Magnesium		Magnesium-Gluconate	8.8 mg
Manganese		Manganese-Gluconate	8.8 mg
Phosphorus		Bone Meal	110.0 mg
Potassium		Potassium-Gluconate	8.8 mg
Zinc		Zinc-Gluconate	8.8 mg

SUPPLEMENTAL AMINO ACIDS

	RDA:
L Lysine	55.0 mg
D.L. Methionine	55.0 mg

SUPPLEMENTAL FATTY ACIDS

Acid	&	Best Source	RDA:
Oleic Acid		Flax Seed	7.9 mg
Linolenic Acid		Flax Seed	2.6 mg
Linoleic Acid		Flax Seed	11.4 mg

Good Supplement Base Ingredients

	RDA:
Alfalfa Leaf	55.0 mg
Beef Liver	55.0 mg
Comfrey Leaf	55.0 mg
Comfrey Root	55.0 mg
Selenium Yeast	82.5 mg

SPECIAL NOTES:

All Recommended Daily Amounts (RDA:) are based on average breed weights, activity levels and "pet status" living environments. This breed of dog should not receive any supplemental vitamin C since it could cause kidney and liver problems. This breed should also avoid all coat conditioners containing soy lecithin.

Food Supplement Chart #1

For An Adult Male German Shepherd Dog

Should be used for a Dog from age 32 months to 14 years
living as a typical house pet & companion animal

SUPPLEMENTAL VITAMINS

Vitamin	& Best Source	RDA:
Vitamin A	Palmitate	8,000.0 I.U.
Vitamin B-1	Thiamine Hcl & Yeast	2.5 mg
Vitamin B-2	Riboflavin & Yeast	4.0 mg
Vitamin B-6	Pyridoxine Hcl & Yeast	2.5 mg
Vitamin B-12	Cyanocobalamin & Yeast	40.0 mcg
Vitamin D	D-activated Sterol	800 I.U.
Vitamin E	dl-alpha tocopherol acetate	125 I.U.
Niacinamide		10.0 mg
Biotin		150 mcg
Folic Acid		325 mcg
d-Calcium Pantothenate		3.0 mg
Para Amino Benzoic Acid		3.0 mg

SUPPLEMENTAL MINERALS

Mineral	& Best Source	RDA:
Calcium	Bone Meal	225.0 mg
Copper	Gluconate	12.0 mg
Iodine	Sea Kelp	25.0 mcg
Iron	Ferrous Fumerate	10.0 mg
Magnesium	Magnesium-Gluconate	8.0 mg
Manganese	Manganese-Gluconate	8.0 mg
Phosphorus	Bone Meal	100 mg
Potassium	Potassium-Gluconate	8.0 mg
Zinc	Zinc-Gluconate	8.0 mg

SUPPLEMENTAL AMINO ACIDS

	RDA:
L Lysine	50.0 mg
D.L. Methionine	50.0 mg

SUPPLEMENTAL FATTY ACIDS

Acid	& Best Source	RDA:
Oleic Acid	Flax Seed	7.2 mg
Linolenic Acid	Flax Seed	2.4 mg
Linoleic Acid	Flax Seed	10.4 mg

Good Supplement Base Ingredients

	RDA:
Alfalfa Leaf	50.0 mg
Beef Liver	50.0 mg
Comfrey Leaf	50.0 mg
Comfrey Root	50.0 mg
Selenium Yeast	75.0 mg

SPECIAL NOTES:

All Recommended Daily Amounts (RDA:) are based on average breed weights, activity levels and "pet status" living environments. This breed of dog should not receive any supplemental vitamin C since it could cause kidney and liver problems. This breed should also avoid all coat conditioners containing soy lecithin.

Recipe #2 For An Adult Male German Shepherd Dog

Should be used for an intact Dog from age 28 months to 14 years
living as a Working Dog & Companion Animal

This recipe and attached food supplement chart SHOULD NOT BE USED FOR ANY OTHER BREED OF DOG SINCE EACH HAS ITS OWN SET OF NUTRITIONAL REQUIREMENTS.

Step 1

For each animal being fed place the following into a large baking pan:

- 2 1/2 pounds ground beef (18-20% fat)
- 1 1/2 pounds chopped chicken meat (20-22% fat - including skin)
- 9 ounces packaged frozen yellow corn (ground into a fine pulp)
- 11 ounces yellow or acorn squash (pre cooked and frozen is OK)
- 7 1/2 pounds russet potatoes (cut into small cubes or shredded)
- 2/3 cup canola oil

Pres set oven to 350 degrees. Place pan in oven and cook for 1 hour and 20 minutes.
Remove from oven and cool..

Step 2

To the cool cooked ingredients add:

- 12 ounces fresh cabbage (chopped into small pieces or shredded)
- 11 ounces chopped broccoli (fresh is best but frozen is OK)
- 8 ounces fresh carrots (ground into a fine pulp)
- 11 finely chopped slices whole wheat bread
- 7 ounces shredded cheddar cheese
- 2 teaspoons garlic powder (do not use a salt based product)

Step 3

Mix all ingredients together, divide into fourteen reusable containers (this is so that you will have a full week's supply of food ready to feed with a 2 meals a day feeding schedule).

4th step

Place containers in the refrigerator.

Last step

Prior to each serving of food add:

- 1/2 the daily dose of food supplements (the ideal amounts of vitamins, minerals, supplemental amino acids, fatty acids and base ingredients are listed on the appropriate chart).
- 1 to 2 teaspoons 100% Natural Rolled Oats (Quick Quaker Oats). This is added at the very last since we want the swelling of the oats to occur in the animal's gut and not in the storage container. If you see any signs of constipation when it is having a bowel movement cut down the amount of 100% Natural Rolled Oats. They are included in the diet to slow the food's passage in the gut - not impact it.

Food Supplement Chart #2

For An Adult Male German Shepherd Dog

Should be used for a Dog from age 28 months to 14 years
living as a Working Dog & Companion Animal

SUPPLEMENTAL VITAMINS

Vitamin &	Best Source	RDA:
Vitamin A	Palmitate	8,800.0 I.U.
Vitamin B-1	Thiamine Hcl & Yeast	3.5 mg
Vitamin B-2	Riboflavin & Yeast	5.6 mg
Vitamin B-6	Pyridoxine Hcl & Yeast	3.5 mg
Vitamin B-12	Cyanocobalamin & Yeast	56.0 mcg
Vitamin D	D-activated Sterol	960.0 I.U.
Vitamin E	dl-alpha tocopherol acetate	175.0 I.U.
Niacinamide		14.0 mg
Biotin		210.0 mcg
Folic Acid		455.0 mcg
d-Calcium Pantothenate		4.8 mg
Para Amino Benzoic Acid		4.8 mg

SUPPLEMENTAL MINERALS

Mineral &	Best Source	RDA:
Calcium	Bone Meal	270.0 mg
Copper	Gluconate	14.4 mg
Iodine	Sea Kelp	30.0 mcg
Iron	Ferrous Fumerate	14.0 mg
Magnesium	Magnesium-Gluconate	9.6 mg
Manganese	Manganese-Gluconate	9.6 mg
Phosphorus	Bone Meal	120.0 mg
Potassium	Potassium-Gluconate	9.6 mg
Zinc	Zinc-Gluconate	9.6 mg

SUPPLEMENTAL AMINO ACIDS

	RDA:
L Lysine	50.0 mg
D.L. Methionine	50.0 mg

SUPPLEMENTAL FATTY ACIDS

Acid &	Best Source	RDA:
Oleic Acid	Flax Seed	7.2 mg
Linolenic Acid	Flax Seed	2.4 mg
Linoleic Acid	Flax Seed	10.4 mg

Good Supplement Base Ingredients

	RDA:
Alfalfa Leaf	50.0 mg
Beef Liver	50.0 mg
Comfrey Leaf	50.0 mg
Comfrey Root	50.0 mg
Selenium Yeast	75.0 mg

SPECIAL NOTES:

All Recommended Daily Amounts (RDA:) are based on average breed weights, activity levels and "a working status" living environment. This breed of dog should not receive any supplemental vitamin C since it could cause kidney and liver problems. This breed should also avoid all coat conditioners containing soy lecithin.

The Recipe For A Geriatric (older) German Shepherd Dog

Can be used for either a Dog or Bitch over 15 years of age

This recipe and attached food supplement chart SHOULD NOT BE USED FOR ANY OTHER BREED OF DOG SINCE EACH HAS ITS OWN SET OF NUTRITIONAL REQUIREMENTS.

Step 1

For each animal being fed place the following into a Wok or large fry pan:

- 2 pounds ground beef (20-22% fat)
- 2 pounds ground or chopped chicken meat (22-24% fat - with skin)
- 14 ounces squash (yellow - pre cooked/frozen)
- 5 pounds russet potatoes (cut into small cubes or shredded)
- 1 cup canola oil

Cook on stove top using medium heat (stirring as needed) until all ingredients are fully cooked. Then let cool.

Step 2

To the cool mix add:

- 8 ounces fresh cabbage (chopped into small pieces or shredded)
- 16 ounces fresh broccoli stems (chopped into small pieces or shredded)
- 14 finely chopped slices whole wheat bread
- 1/2 cup shredded green bell pepper
- 8 ounces shredded cheddar cheese
- 2 teaspoons garlic powder (do not use a salt based product)

Step 3

Mix all ingredients together, divide into twenty-one reusable containers (this is so that you will have a full week's supply of food ready to feed with a 3 meals a day feeding schedule).

4th step

Place containers in the refrigerator.

Last step

Prior to each serving of food add:

- 1/3 the daily dose of food supplements (the ideal amounts of vitamins, minerals, supplemental amino acids, fatty acids and base ingredients are listed on the appropriate chart).
- 1/2 to 1 teaspoon 100% Natural Rolled Oats (Quick Quaker Oats). This is added at the very last since we want the swelling of the oats to occur in the animal's gut and not in the storage container. If you see any signs of constipation when it is having a bowel movement cut down the amount of 100% Natural Rolled Oats. They are included in the diet to slow the food's passage in the gut - not impact it.

The Food Supplement Chart For A Geriatric (older) German Shepherd Dog

Can be used for either a Dog or Bitch over 14 or 15 years of age

SUPPLEMENTAL VITAMINS

Vitamin	& Best Source	RDA:
Vitamin A	Palmitate	8,360.0 I.U.
Vitamin B-1	Thiamine Hcl & Yeast	2.4 mg
Vitamin B-2	Riboflavin & Yeast	3.9 mg
Vitamin B-6	Pyridoxine Hcl & Yeast	2.4 mg
Vitamin B-12	Cyanocobalamin & Yeast	41.8 mcg
Vitamin D	D-activated Sterol	836.0 I.U.
Vitamin E	dl-alpha tocopherol acetate	130.6 I.U.
Niacinamide		9.7 mg
Biotin		145.3 mcg
Folic Acid		432.2 mcg
d-Calcium Pantothenate		3.1 mg
Para Amino Benzoic Acid		3.1 mg

SUPPLEMENTAL MINERALS

Mineral	& Best Source	RDA:
Calcium	Bone Meal	222.8 mg
Copper	Gluconate	11.9 mg
Iodine	Sea Kelp	24.8 mcg
Iron	Ferrous Fumerate	9.9 mg
Magnesium	Magnesium-Gluconate	7.9 mg
Manganese	Manganese-Gluconate	7.9 mg
Phosphorus	Bone Meal	99.0 mg
Potassium	Potassium-Gluconate	7.9 mg
Zinc	Zinc-Gluconate	7.9 mg

SUPPLEMENTAL AMINO ACIDS

	RDA:
L Lysine	55.0 mg
D.L. Methionine	55.0 mg

SUPPLEMENTAL FATTY ACIDS

Acid	& Best Source	RDA:
Oleic Acid	Flax Seed	7.9 mg
Linolenic Acid	Flax Seed	2.6 mg
Linoleic Acid	Flax Seed	11.4 mg

Good Supplement Base Ingredients

	RDA:
Alfalfa Leaf	27.5 mg
Beef Liver	27.5 mg
Comfrey Leaf	27.5 mg
Comfrey Root	27.5 mg
Selenium Yeast	41.2 mg

SPECIAL NOTES:

All Recommended Daily Amounts (RDA:) are based on average breed weights, activity levels and "pet status" living environments. This breed of dog should not receive any supplemental vitamin C since it could cause kidney and liver problems. This breed should also avoid all coat conditioners containing soy lecithin.

A Recipe For A Pregnant and Lactating German Shepherd Dog Bitch

Should be used for a pregnant and lactating Bitch from the start of her third trimester of pregnancy through the end of lactation

This recipe and attached food supplement chart SHOULD NOT BE USED FOR ANY OTHER BREED OF DOG SINCE EACH HAS ITS OWN SET OF NUTRITIONAL REQUIREMENTS.

Step 1

Place the following into a Wok or large fry pan:

- 2 1/2 pounds ground beef (22-24% fat)
- 2 pounds ground or chopped chicken meat (24-26% fat - with skin)
- 16 ounces fresh broccoli stems (chopped into small pieces or shredded)
- 6 ounces yellow corn (this **MUST** be ground into a fine pulp)
- 14 ounces yellow or acorn squash (pre-cooked and frozen is OK)
- 7 1/2 pounds russet potatoes (cut into small cubes or shredded)
- 1 cup canola oil

Cook on stove top using medium heat (stirring as needed) until all ingredients are fully cooked. Then let cool.

Step 2

To the cool mix add:

- 14 finely chopped slices whole wheat bread
- 1/2 cup shredded green bell pepper
- 6 ounces cottage cheese (small curd 4% milk fat)
- 8 ounces shredded cheddar cheese
- 1 1/2 teaspoons Comfrey root powder
- 1 teaspoons kelp powder
- 2 teaspoons garlic powder (do not use a salt based product)

Step 3

Mix all ingredients together, divide into twenty-one reusable containers (this is so that you will have a full week's supply of food ready to feed with a 3 meal a day feeding schedule).

Step 4

Place containers in the refrigerator.

Last step

Prior to each serving of food add:

- 1/3 the daily dose of food supplements (the ideal amounts of vitamins, minerals, supplemental amino acids, fatty acids and base ingredients are listed on the appropriate chart). Note: Do not add any oats to her diet during this period of time.

The Food Supplement Chart

For a Pregnant and Lactating German Shepherd Dog Bitch

from start of 3rd trimester through 1 week after lactating stops

SUPPLEMENTAL VITAMINS

Vitamin &	Best Source	RDA:
Vitamin A	Palmitate	14,000.0 I.U.
Vitamin B-1	Thiamine Hcl & Yeast	4.4 mg
Vitamin B-2	Riboflavin & Yeast	7.0 mg
Vitamin B-6	Pyridoxine Hcl & Yeast	4.4 mg
Vitamin B-12	Cyanocobalamin & Yeast	70.0 mcg
Vitamin D	D-activated Sterol	1600.0 I.U.
Vitamin E	dl-alpha tocopherol acetate	218.8 I.U.
Niacinamide		17.5 mg
Biotin		262.5 mcg
Folic Acid		650.0 mcg
d-Calcium Pantothenate		5.2 mg
Para Amino Benzoic Acid		5.2 mg

SUPPLEMENTAL MINERALS

Mineral &	Best Source	RDA:
Calcium	Bone Meal	371.2 mg
Copper	Gluconate	21.0 mg
Iodine	Sea Kelp	41.2 mcg
Iron	Ferrous Fumerate	17.5 mg
Magnesium	Magnesium-Gluconate	14.0 mg
Manganese	Manganese-Gluconate	14.0 mg
Phosphorus	Bone Meal	165.0 mg
Potassium	Potassium-Gluconate	14.0 mg
Zinc	Zinc-Gluconate	14.0 mg

SUPPLEMENTAL AMINO ACIDS

	RDA:
L Lysine	75.0 mg
D.L. Methionine	75.0 mg

SUPPLEMENTAL FATTY ACIDS

Acid &	Best Source	RDA:
Oleic Acid	Flax Seed	25.2 mg
Linolenic Acid	Flax Seed	8.4 mg
Linoleic Acid	Flax Seed	36.4 mg

Good Supplement Base Ingredients

	RDA:
Alfalfa Leaf	55.0 mg
Beef Liver	55.0 mg
Comfrey Leaf	55.0 mg
Comfrey Root	55.0 mg
Selenium Yeast	82.5 mg

SPECIAL NOTES:

All Recommended Daily Amounts (RDA:) are based on average breed weights and activity levels. This breed of dog should not receive any supplemental vitamin C since it could cause kidney and liver problems. This breed should also avoid all coat conditioners containing soy lecithin.

Medical terms

Assimilation - Process of transforming food into a state suitable for absorption by the circulation and conversion into body tissue; synthetic or constructive metabolism; anabolism.

Bionutritive - Affording nutrition. The sum of the processes concerned in the growth, maintenance, and repair of the living body as a whole. Biological nourishment provided by food.

Black Tongue - A disease due to a deficiency of niacin; similar to pellagra.

Bloat - An abnormal accumulation of gas in the stomach or intestines, resulting in distention of the abdomen.

Cataracts - Partial or complete opacity of the crystalline lens or its capsule.

Collie eye - Congenital defects of the choroid or optic nerve impairing vision.

Cyst - A coming form denoting likeness to or connection with a bladder or cysto. A membranous sac serving for the reception of fluids or gases.

Dermoid Sinus - A draining cyst originating at or near base of spine.

Dysplasia - A gradually crippling abnormality of the hip joint.

Dwarfism - Abnormal development of the body; the condition of being dwarfed.

Eczema - An acute or chronic, noncontagious, itching, inflammatory disease of the skin. The skin is reddened, the redness shading off into the surrounding unaffected parts.

Enclampsia - An after-whelping disturbance in a bitch's calcium metabolism characterized by nervousness and spasms.

Heart Failure - The syndrome resulting from failure of the heart as a pump. The mechanism is varied, the symptoms depending on whether the left or right ventricle preponderantly fails. Dyspnea is most marked in left ventricular failure; and engorgement of organs with venous blood, edema, and ascites, most marked in right ventricular failure.

Hemophilia - A sex-linked, hereditary disease occurring only in males but transmitted by females. It is characterized by impaired blood coagulation, attributed by some to a deficiency in the plasma of effective thromboplastinogen.

Hot Spots - Inflammation of the epidermis with loss of coat.

Hyper Thyroid - An abnormal condition brought about by excessive functional activity of the thyroid gland.

Hypo Thyroidism - A morbid condition due to deficiency of thyroid hormone; in advanced form expressed as cretinism or myxedema.

In vivo - In the living organism: used in contrast to in vitro: In glass; referring to a process or reaction carried out in a culture dish, test tube, etc.

Kidney Failure - The syndrome resulting from failure of the kidney as a productive gland.

Liver Failure - The syndrome resulting from failure of the liver as a productive gland.

Monorchidism - Congenital absence of one testis. Failure of one testicle to descend into the scrotum.

Progressive Retinal Atrophy (PRA) - deterioration of the retina of the eye.

Slipped Stifle - Dislocation of the kneecap.

Snow Nose - Inflammation of the epidermis in the nose region affecting the senses of touch, pain and temperature.

Temperature Sensitive - Variations of body temperature through the day.

Torsion - A twisting of the intestine following bloat.

Tumors - A swelling. Specifically, a new growth of cells or tissues characterized by autonomy, that is, independent of the laws of growth of the host. It is progressive and in malignant form limited only by the nutrition provided by the host.

Von Willebrand's Disease - An inherited blood disease somewhat like hemophilia.

Worms - A member of the phyla Annelida, Nematelminthes, or Platyhelminthes. The medically important forms belong to the last two phyla.



William D. Cusick
with two friends

Mr. Cusick first became interested in the nutritional variations between the different breeds of dogs in 1968. At that time he was the owner of a major West Coast vitamin manufacturing company producing an all breed dog food supplement that Saint Bernards thrived on but which caused nutritional distress when fed to Dalmatians.

He became curious about the different reactions that these two breeds of dogs had to one food product. This in turn led him on a twenty year search to identify the nutritional morphologies for most members of the species: canine.

After his research proved why a food “good for one breed can be harmful to a different breed” Mr. Cusick felt compelled to educate all dog owners about his discoveries. He chose to do this by writing books for the lay person as well as publishing articles in scientific journals. His first and second books about the nutritional requirements of different dog breeds, published in 1990 and 1995, listed information about general differences found in 152 breeds but did not include recipes or supplement charts. He was then inundated with requests to formulate breed specific recipes from caring dog owners.

This Book is one in a new series written by Mr. Cusick. In this series he has written a separate book about each specific breed of dog and included recipes and supplement charts for that specific breed.

His books are only one way he is trying to get that message out. He has also taken his crusade on-line with an Internet web site titled “William D. Cusick / The Animal Advocate.” His web site can be found at www.wdcusick.com and through his web site he urges dog owners to contact him with any questions they may have about breed specific nutrition and feeding their pets - CORRECTLY.