



# Recent trends in Pet nutrition

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The well being of the dog depends on the health status, exercise of the animal and predominantly the "Nutrition". The most important thing that any dog owner does for his dog is 'feeding'. He trains it once in its lifetime, vaccinates only once in a year, grooms it before a show, baths it when it is dirty but is fed regularly. Now a days lot of multinational companies are producing commercial food, this is the time that veterinarians should give more attention to the foods that are available in market, evaluate the food and thus helping the owner to choose the right kind of food that his pet, most in need of! Awareness about different pet foods would not only clear the myths regarding feeding but also ensure proper maintenance of dietary requirement of an animal. Moreover it helps in preventing metabolic disorders and deficiency diseases.

## Requirement of Nutrients

The requirement of energy, and other nutrients can be calculated as per the following recommendations.

For an adult dog, daily caloric requirement varies according to size, stage of life and type of food.

According to size of dog, the

recommendations are:

Body weight (Kg)	Kcal ME/kg BW/day
>10 kg	85
10-35 kg	60
Over 35	50

The life stage requirement of calories is as follows

Maintenance	100%
Gestation (trimester 1 & 2)	100%
Gestation (3 <sup>rd</sup> trimester)	125%
Lactation	200-300%
Moderate work	120%

## Protein and Amino acid:

Ten essential amino acids required for dogs are arginine, lysine, isoleucine, leucine, histidine, methionine, phenyl alanine, threonine, tryptophan and valine, of which lysine is first limiting amino acid. Methionine, threonine or isoleucine can be limiting depending upon protein source.

## Fat

Dietary fat is concentrated source of calories. There is no known requirement as such; however, linoleic acid is required primarily to maintain normal hair and skin condition. Addition of fat will improve palatability of food.

## Carbohydrate

Carbohydrate is not required for dogs, nevertheless, dry type canine diets frequently contain 40-60% carbohydrate. Carbohydrates must be cooked prior to feeding to prevent digestive disturbances.

## Minerals

Of the macro minerals, calcium and phosphorus require prime consideration. The preferred calcium and Phosphorus ratio is within the range of 1.2: 1 to 2: 1. The dietary calcium levels should not exceed 1.8%. Dietary calcium above 4% (DMB) will decrease the growth.

## Thumb rules in feeding

General recommendation for an adult dog is 21% protein.

Growth  
3500 /ME/ Kg diet

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At 6 weeks of age -3X calories intake of adult

At 20 weeks of age 2X calories intake of adult

(Ration 27% protein, 3500-kcal ME/Kg diet)

Work

27% protein 4400 Kcal /ME/Kg diet

Lactation 2-3 X as that of adult

Geriatrics 25% protein, 3000 Kcal ME/Kg diet.

### **Making pet food recommendations**

After knowing the basic requirement of nutrients, it is essential to appreciate the factors to be considered for recommendations of pet food. It should be based on age, body condition, life stage and life style along with the preference of owners for cost and convenience.

#### **Age**

Pets less than one year of age requires food for growth and hence recommendations are to be made according to body conditions, whether it is normal thin or overweight.

Recommendations should also be made according to life stages as sedentary, moderately active or active

#### **Categories of the product**

1. Growth food- Protein > 21% fat >8%

2. Adult food -Protein > 21-26% fat >8-18 %

3. Reduced caloric food -Protein 14-25% fat 7-8%

Performance food of all stages- Protein > 27% fat > 9%

#### **Types of food**

*Canned food* (8-15% protein, 2-15% fat, 75% moisture, 375-950 ME/Kcal/lb.

1. dry matter intake is high due to low caloric content

2. Highest palatability

3. Highest cost/ serving

4. Less convenient to serve

5. Needs refrigeration

Dry diet (18-27% protein, 7-15% fat less than 12% moisture, 35-50% carbohydrate and 1400-2000 ME/kcal/lb

1. Dry diets were introduced in 1890 where it was given as baked biscuits including grain, vegetables meat and is continued to be widely used form.

2. Generally are crunchy. Dogs relish feeding when moistened.

3. Reduce tartar and tooth decay

4 Easy to store

5. Convenient

6. Economical

Soft moist (16-25% protein, 5-10% fat, 25-35% carbohydrates 30% moisture 1200-1350 ME kcal/lb

1. Easy to store and serve

2. Expensive with regard to intake as it is low in caloric content.

Other criteria in selecting food are Cost, Nutrient density, Palatability, Digestibility / stool volume and Availability

#### **Feeding adult dogs**

Normally active adult dogs with no weight problems can be fed good quality of commercial diet, which is " nutritionally complete and balanced for all life stages"

Some adult dogs may not have high caloric needs and hence should be fed with low caloric diets having less fat and sodium. Feeding should be atleast once in a day, to the extent of twice a day for large active breeds Fresh drinking water should be made available.

#### **Pregnancy**

Usually nutritional hike is not required up to 5-6 weeks, The requirement for the last 2-3 weeks of pregnancy is increased and diet with atleast 1600 Mcal/lb. food with 21% protein is recommended.

#### **Lactation**

The requirement for lactation continues to increase till the 4<sup>th</sup> week. Moistening dry food with water will encourage food intake during lactation. From 3-4 weeks puppies will start nibbling solid food. From 6-8 weeks only less than 50% above maintenance requirement is needed.

#### **Weaning**

The bitch should not receive food on the day but should have plenty of water. On the day after weaning, dam should receive 1/4<sup>th</sup> the amount, which was fed prior to being bred. The dam and puppies can be grouped together for few hours on the day so that the pups can nurse the dam dry. On third day, half the quantity of maintenance and 3/4<sup>th</sup> on the fourth day and usual maintenance diet is recommended from 5<sup>th</sup> day onwards.

#### **Puppies**

Puppy in a litter should gain approximately its birth weight in each week during lactation and nursing period. The typical introduction of a puppy to solid





food (Around 3-4 weeks of age) usually amounts to the pup romping around and through the dams food bowls, licking moistened dry food from its paws. A dry puppy food should be fed, moistened during first few weeks after weaning to encourage adequate food intake. Mixing one part of warm water to 3 parts of dry puppy food will make the food tastier and easier for puppy to eat. The feeding time should not be more than one hour.

### Development of pet food

Each Pet food manufacturer has his own procedure for developing new product or modifying the current brand. This can be based on market research or a diet concept.

The owners preferences like cost satisfaction, reputation, storage capacity and convenience and pets preferences like ingredients, nutritional content palatability factors like colour, texture, shape and other physical characters as well as mouthful level of cooking are considered in the development of a pet food.

The nutritional assessment of pet foods are done by digestibility and metabolic trials of products intended for meeting the requirements for various life stage or as per the claims used in the product.

## ANIMAL HUSBANDRY NEWS

### A cup of milk and a hand shake to School children

State level inauguration of 'the distribution of a cup of milk and a hand shake program' implemented by Departments of Animal Husbandry and Social Welfare for school children was held at Tagore theatre, Trivandrum, Kerala on 27-05-02. Chief Minister of Kerala Sri. A.K.Antony inaugurated the program. Minister for Animal Husbandry Smt. K.R. Gouri Amma distributed milk to schoolchildren. Minister for Parliamentary affairs Sri. M.M. Hassan spoke on the occasion. Secretary to Government (AH&D) Sri.S.Subbaiah welcomed the gathering and Director of Animal Husbandry Dr. G. Sudevan offered vote of thanks.

### Backyard poultry rearing program

State level inauguration of the backyard poultry-rearing program for 1000 women was launched at Thuravoor, Alappuzha on 29-05-02. Minister for Animal Husbandry Smt. K.R. Gouri Amma inaugurated the program. Sri. Shaju MLA and Director of Animal Husbandry Dr.G.Sudevan spoke on the occasion.

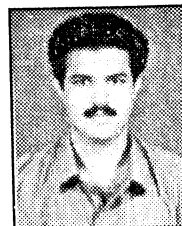
### Inauguration of the Parassala Goat farm

Inauguration of the new Goat farm of Kerala will be held at Parassala on 8-05-02. Minister for Animal Husbandry Smt. K.R. Gouri Amma will inaugurate the Goat farm.

## Sign posts

### Dr.Vidhu P Nair

Dr.Vidhu P Nair, Veterinary Surgeon, Animal Husbandry Department, Kottayam has received 6<sup>th</sup> rank in the Civil service examination. Dr. Vidhu belongs to 1991 batch of College of Veterinary and Animal sciences, Mannuthy. He had taken MVSc in Animal nutrition from Indian Veterinary Research Institute, Izzatnagar. He earlier worked as Assistant manager, KLDB, Mattupetty.



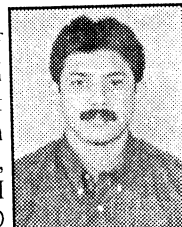
### Dr.N. Ajayan

Dr.N.Ajayan, Publication Officer, Farm Information Bureau, Trivandrum has been selected for the 'State level best article award of a Veterinarian in the Animal husbandry sector for the year 2001' for his articles on Anthrax published in Kerala kourmudi and Desabhimani dailies. As a noted farm journalist Dr.Ajayan has several publications and audiovisual programmes to his credit.



### Dr. S.Nandakumar

Dr.S.Nandakumar, Veterinary Surgeon, Chief Disease Investigation Office, Palode has received Indian Veterinary Association's 'Young Scientist Award' for the year 2001. He belongs to 1989 batch of College of Veterinary and Animal sciences, Mannuthy. After acquiring training from IVRI Mukteswar he was instrumental in setting up FMD virus typing laboratory in the state.



### Dr.Ani.S.Das

Dr.Ani.S.Das, Assistant Professor, Kerala Agricultural University has been selected as the new Managing Director of Meat Products of India, Koothattukulam. He belongs to 1982 batch of College of Veterinary and Animal sciences, Mannuthy.

### Dr.K.G.Suma

Dr.K.G.Suma, District Animal Husbandry Officer, Thrissur received 'District Collector's award for the best Departmental officer for the year 2001-02' and 'Good service entry'. Dr.Suma belongs to 1975 batch of College of Veterinary and Animal Sciences, Mannuthy. Moreover Dr.Suma is the elected President of Kerala State Veterinary Council.



### Dr.G.Kishore

Dr.G.Kishore, Manager, KLD Board has been selected as the Senior Executive in National Dairy Development Board, Gujarat. Kishore graduated from College of Veterinary and Animal sciences, Mannuthy (1984 Batch) and took MVSc from NDRI, Karnal.

### Dr. C. M. Aravindakshan

Dr. C. M. Aravindakshan has been unanimously elected as the member of the General Council of Kerala Agricultural University. He is working as Associate Professor, Department of Pharmacology, Veterinary College, Mannuthy.



**Congratulations !**

