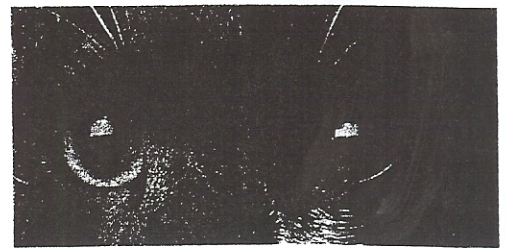


# Something to Chew On!



Your Information Source on Pet Nutrition

## Feeding Puppy

By Dr. R. Glenn Brown, Nutrition Consultant

Because weanling dogs have greater needs and limited capacity compared to adults, puppy foods which contained greater concentrations of protein, fat, essential fatty acids and key amino acids were developed. This accomplished three things: 1) the animal's needs could be met by feeding smaller amounts than would be the case with a less dense product, 2) the animal grew more rapidly, 3) the animal became used to eating at a frequency roughly equivalent to that of an adult.

The concept of growth at the maximal rate for puppy has its roots in food-producing animal nutrition where rapid growth is desirable for commercial reasons. Since most food-producing animals barely reach maturity, the long term consequences of feeding for rapid growth were rarely, if ever apparent. In the case of humans and dogs, there is no market value requirement for such rapid growth. In fact, it has been shown that certain large breeds, which are predisposed to hip dysplasia and fed for maximal growth rate, may later develop crippling disorders. The classic work of Hedhammer et al.<sup>1</sup> indicated that overnutrition in early life could result in adverse skeletal changes 6-8 years later.

Concerns about overnutrition have led some to suggest that the appropriate scheme for feeding puppies is to not use a specially designed puppy food but to feed a typical maintenance dry food<sup>2</sup> ad libitum. Whether the animal will grow less rapidly as a result is debatable. The nutrient requirements of any animal are based on the availability of certain mass of nutrient and energy during any 24-hour period.

\* The concentration of nutrients in a diet is simply a means to achieve that end. The mass of nutrients required will be obtained by either consuming more or less of a food depending on the nutrient density<sup>3</sup>. An active young dog will eat to meet its energy needs, and if this means several meals a day, the pup will have no hesitation in so doing. Since energy and protein needs for growth are met by means of increased food intake, the concept that pups will grow less rapidly loses its appeal. A product which  
\* contains 22% protein, as well as sufficient energy, will perform optimally. In some cases, the animal may simply have to eat more in order to take in a sufficient mass of nutrients to meet its needs.

It would be tempting to say that as a food becomes more nutrient dense, intake will automatically decline. Unfortunately, many dogs will eat to excess if given the chance. Because of this, if a puppy diet is fed, it will be necessary to practice meal feeding. On the other hand, feeding a diet of lower nutrient density allows for more latitude in feeding practice.

Is there any harm in ad libitum feeding? The answer is, generally not. However, the animal may become habituated to eating whenever it desires and this may make later switching to meal feeding of a denser diet difficult. The dog may beg for food whether it is hungry or not, simply out of boredom or habit.

For those who may wish to underfeed a dog predisposed to dysplasia, is there any harm in feeding ad lib a maintenance diet which tends to be less energy dense? It is not a good idea to depend on reduced energy and palatability to promote under-eating, especially if the food is available at all times. Experience shows that a growing pup will simply eat frequently. If the animal is to be slightly underfed, it must be meal fed. For example, feeding 75-85% of the amount recommended will slow growth enough to prevent the worst manifestation of hip dysplasia. In this instance, the animal should be weighed regularly to determine its growth rate. Simply using a manufacturer's recommended feeding guide is not enough. It must be remembered that this is only a palliative measure and not a cure. It does serve to improve the quality of life for the patient and may result in a quasi-normal lifespan. As a general principle, all animals who suffer from skeletal weaknesses would profit from reduced stress on the system. If the rate at which weight is added exceeds the skeleton's ability to respond, the resulting strain will exacerbate the clinical manifestations of the disorder.

Regardless of how a puppy is fed, it should be examined regularly to determine if it is developing normally.

- 1 Hedhammer, A et al. 1974 Overnutrition and skeletal disease: An experimental study in growing Great Dane dogs. The Cornell Veterinarian 64, Supple 5, pp160.
- 2 These products usually contain 22% protein, 7-9% fat and 1-2% essential fatty acids.
- 3 There is a reducto ad absurdum to this concept. It is possible to have a food so dilute that no animal can consume sufficiently. This objection is not realistic within the context of the present discussion.



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