



## Adult Dog & Puppy

# NUTRITION FOR PREGNANT AND LACTATING DOGS AND THEIR NURSING PUPPIES



Optimal nutrition plays an essential role in successful reproduction.

Estrus, pregnancy and lactation are each associated with specific nutritional needs that must be addressed for optimal conception, fetal development and parturition, and for optimum neonatal viability.

## Key Messages

### REPRODUCING BITCHES

#### Prebreeding, estrus and mating

- Bitches should be in ideal body condition **prior to breeding** for optimal fertility, appropriate puppy birth weight and reduced pup mortality.
  - Switching to a food designed for growth and reproduction (e.g., a puppy formula) either just before breeding or during the first 6 weeks of pregnancy can help bitches become accustomed to a more energy- and nutrient-dense diet for later in gestation and lactation. When switching foods, gradually introduce the new diet over 7 days to minimize digestive upsets.
  - Try to avoid switching diets at about 3 to 4 weeks of gestation, as many bitches experience a form of “morning sickness” and may reduce their food intake. Switching diets at this time may result in rejection of the new food.
  - It is very important to monitor food consumption to avoid excessive calorie intake during early gestation.

*(continued on next page)*

**DID YOU KNOW?**






Lactation is the most nutritionally demanding life stage, with nutrient requirements higher than for growth.

## Key Messages (continued)

### Gestation

- Increased food intake is necessary from the sixth week of a dog's 9-week gestation.
  - During the first two trimesters of pregnancy, a pregnant bitch's energy needs are like her adult maintenance requirements.
  - Unless a dog is underweight at breeding, increasing the amount of food prior to the fifth week of gestation is not recommended.

### ENERGY NEEDS OF THE PREGNANT DOG DURING GESTATION




 1-5	From week 1 to 5	Same requirements as adult for maintenance
 6th	Week 6	Maintenance levels + 10%
 7th	Week 7	Week 6 + 10%
 8th	Week 8	Week 7 + 10%
 9th	Week 9	Week 8 + 10%

- In the last 3 to 4 weeks of gestation, a bitch's requirements for energy and other nutrients increase.
  - Developing puppies grow rapidly during the last 3 to 4 weeks of pregnancy.
  - Energy requirements of the bitch increase from 25% to 50%, depending on litter size.
  - Dietary DHA (docosahexaenoic acid), an omega-3 fatty acid, helps ensure optimal neural and vision development in puppies both in utero and postpartum.
  - Feeding a high-quality, nutritionally complete and balanced puppy formula will supply all the necessary nutrients with no supplementation required.
- Feeding several meals daily or free choice during the last 3 to 4 weeks of gestation will help ensure a bitch is receiving enough nutrition despite increasingly limited abdominal space for food and digestion.

### Lactation

- Lactation is considered the most nutritionally demanding life stage, with nutrient requirements higher than for growth.

### ENERGY REQUIREMENTS OF THE LACTATING DOG

 1-2	Week 1 to 2	Requirements of adult for maintenance x 2
 3-4	Week 3 to 4	Requirements of adult for maintenance x 3
 5-6	Week 5 to 6	Requirements of adult for maintenance x 2

- Lactating dogs require a highly digestible, energy- and nutrient-rich diet (e.g., puppy formula) to meet the demands of milk production and to maintain their own body condition.
  - Milk production peaks about 3 to 4 weeks after whelping.
  - Energy requirements increase steadily, peaking at two to four times prebreeding maintenance levels.
  - Feeding several times per day or free choice during the first 3 to 4 weeks after whelping helps meet the higher energy demands of lactation.
  - Milk production will begin to decline as puppies start eating solid food.

*(continued on next page)*

## Key Messages (continued)

### Weaning and post-weaning

- Limited feeding of the bitch for 1 to 2 days before weaning can help decrease milk production.
- On the day before weaning, the dam should be separated from the puppies. While all food should be withheld from her to help slow milk production, continue to provide fresh water.
  - The dam and puppies can be reunited that evening after the puppies have eaten. Continue the fast overnight to further reduce the bitch's milk production and to encourage the puppies to eat solid food in the morning.
- On weaning day, permanently separate the bitch from the puppies.
  - Feed the bitch about 25% of the amount and type of food fed prior to breeding.
  - Over the next 3 days, gradually increase the amount of food fed so that the bitch is receiving 100% of her prebreeding maintenance level.

## PUPPIES

### Nursing puppies

- Bitch's milk alone is adequate to support normal growth until about 3 to 4 weeks of age.
- Puppies can be introduced to semi-solid food (i.e., gruel made of 1 part dry food and 2 parts warm water) when they are about 3 weeks of age. This should be made from the same food being provided to the dam.
  - Early intake of semi-solid food reduces the nutritional burden on the dam and makes weaning less stressful for the puppies.
  - The food:water ratio should be reduced to about 2 parts dry food:1 part water by about 5 to 6 weeks of age.

### Weaning puppies

- The weaning process starts naturally when puppies are about 5 to 6 weeks old.
  - Bitch's milk may become insufficient to provide puppies with the correct level of energy and nutrients they all require for their rapid growth.
- Puppies should be consuming semi-solid food by 5 weeks of age.
- The relative amount of solid food should increase gradually until puppies are ready to be weaned at 6 to 8 weeks of age.
- Keeping the puppies on the same diet during this time will help avoid digestive upset.
- After weaning is complete, puppies can be switched to breed size-appropriate diets.

### Additional Resources

Case, L. P., Daristotle, L., Hayek, M. G., & Raasch, M. F. (2011). *Canine and Feline Nutrition: A Resource for Companion Animal Professionals* (3rd ed.). Mosby Elsevier.

Debraekeleer, J., Gross, K. L., & Zicker, S. C. (2010). Feeding reproducing dogs. In M. S. Hand, C. D. Thatcher, R. L. Remillard, P. Roudebush, & B. J. Novotny (Eds.), *Small Animal Clinical Nutrition* (5th ed., pp. 281–294). Mark Morris Institute.

The Purina Institute aims to help put nutrition at the forefront of pet health discussions by providing user-friendly, science-based information that helps pets live longer, healthier lives.