1949

Feeding Of The Bitch During Gestation

Thomas Flynn
Iowa State College

Follow this and additional works at: https://lib.dr.iastate.edu/iowastate_veterinarian

Part of the Small or Companion Animal Medicine Commons, and the Veterinary Physiology Commons

Recommended Citation
Flynn, Thomas (1949) "Feeding Of The Bitch During Gestation," Iowa State University Veterinarian: Vol. 11 : Iss. 3 , Article 6.
Available at: https://lib.dr.iastate.edu/iowastate_veterinarian/vol11/iss3/6

This Article is brought to you for free and open access by the Journals at Iowa State University Digital Repository. It has been accepted for inclusion in Iowa State University Veterinarian by an authorized editor of Iowa State University Digital Repository. For more information, please contact digirep@iastate.edu.
A BASIC knowledge of the nutritional requirements of the bitch from the time of conception until the weaning of her pups is essential to anyone interested in raising healthy dogs. As with all types of livestock, the products of any planned breeding program can be no better than their environment permits. To fully develop genetic potentials, the nutritional aspects of the environment must be carefully considered.

To insure best results from a mating, the bitch should be presented in good physical condition, having been previously fed and properly exercised so that she carries sufficient flesh on her frame to smooth out her appearance. Excessive fatness is undesirable. This condition often complicates the mating as the bitch shows little interest or desire, and, if conception does occur, pregnancy may tax her strength. On the other hand, lack of proper fleshing and general poor condition will be detrimental to both the bitch and the resulting offspring.

The basic dietary requirements of all the species include the fats, carbohydrates, proteins, minerals, vitamins and water. A diet prepared for a bitch during early gestation may consist essentially of the foods fed prior to conception, if such foods were found to maintain the bitch in good condition. One must add vitamins and minerals as the development of the embryos proceeds. The total amount of foods fed will increase as gestation progresses, with the amount required for an individual varying according to that individual.

Morris,\(^1\) writing on the diet of a normal dog, stated that the energy needs require an average daily intake of 30-60 calories per pound of body weight, according to the composition and quality of the food and the breed concerned. Dogs of active nervous types require the highest volume of calories. Jensen,\(^2\) in his paper, stated that 35-65 calories per pound of body weight are required daily, and that this requirement is approximately doubled during gestation. To establish a diet which would conform to the above requirements, one should plan the rations to consist of approximately 50-65 percent carbohydrates, 5-10 percent fat and 22 percent protein.

The principle energy value of a food lies in its carbohydrate and fat content. The average dry dog food provides adequate carbohydrate intake but is low in fat and protein content. The low fat content of only 1-2 percent is due to the manufacturer’s problem of rancidity in storage of foods with a higher fat percentage, with a subsequent adverse effect upon the fat-soluble vitamins and the flavor of the product. This condition is easily corrected by the addition of kitchen fats to the prepared meal, or by the feeding of pieces of animal suet to the bitch.

The storage of a slight amount of fat upon the bitch during gestation is desirable. By proper exercise an excess deposition is avoided, and the bitch builds up a fat reserve upon which she can draw during the lactation period. If the bitch is of a highly nervous and active type, it may be advisable to restrict her move-
ments to encourage the building up of her tissue reserves for the demands of the nursing period.

The proteins in the diet serve mainly in the processes of tissue building and replacement. Some of the better prepared dry dog foods list an analysis of approximately 20 percent protein content, but give no indication as to the percentage of protein of plant origin in comparison with that of animal origin, nor of the amount of protein which is digestible by the dog, of that total percent listed. During gestation animal protein in the form of flesh, eggs, milk or milk products has a beneficial effect in conditioning the bitch and in supplying more readily available essential amino acids to meet the needs of the developing fetuses.

The digestible protein in the diet should approximate 20 percent and may be increased where desirable. In the feeding of lean meat, one should remember it is only a part of the balanced diet and avoid feeding it exclusively. It is inadequate in maintaining normal health, and provides little or no bulk after digestion to aid in the maintenance of the tonus of the digestive tract.

The mineral constituents of the diet are important to the bitch and her pups, especially during the latter part of pregnancy and during lactation. The building of strong, normal skeletons, which occurs in the latter part of gestation, presents a heavy demand upon the calcium and phosphorus reserves of the bitch. The diet must be supplemented by the addition of these minerals in their proper proportion. The increasing demands of the hematopoietic centers of the fetuses serve to drain the bitch's available iron and copper supply and aggravate any existing anemic tendencies in her. To best supply all important mineral elements, ground animal bone meal preparations are added to the ration. In addition to containing the necessary minerals in their proper proportions, the bone meal acts as a source of trace elements which would be lacking were preparations such as dicalcium phosphate and iron compounds exclusively fed.

Vitamins, though needed but in small amounts, are an essential part of the diet, especially during the gestation period. Vitamin A may be supplied by feeding fish liver oils, egg yolks and beef fat; or may be obtained by the bitch herself by eating green grass or other plants which contain carotene, a precursor of the vitamin. Vitamin D, which is found in some of the same sources as the preceding vitamin, is usually fed in the form of cod-liver oil regularly added to the food. It is important in that its function is to regulate the assimilation and utilization of the calcium and phosphorus within the bitch and the fetuses. The liver, kidney and spleen represent important animal sources of the vitamins of the B-complex group and may be fed as part of the ration. Dried brewers' yeast tablets, another source of this complex, may be fed as tidbits or the powdered form may be placed in the feed.

Water must be freely provided at all times. Too often the feeder pays a great deal of attention to the preparation of the meal for the bitch but neglects to see that her water pan is kept full, or that fresh water is routinely supplied. A large amount of fluids is required by the bitch to assist in the proper metabolism of foodstuffs, to aid in the maintenance of the fluid balance of her body, and to help in the elimination of waste products of her metabolic processes, as well as those of the fetuses, by way of her urinary apparatus. In winter provide water that has had the chill removed. In summer replace the sun-heated water in the pan with some cool fresh tap water.

During the early part of the gestation period the bitch should be fed twice daily, the total food to represent a slight increase in amount fed prior to conception. As gestation progresses the total daily amount of feed should be increased according to the appetite and desires of the bitch, but she should be fed at more frequent intervals during the day. Toward the last three weeks of pregnancy, she will be consuming approximately twice the amount of food given before the mating. As stated previously, she should have
free access to plenty of water. Should a tendency toward constipation occur during the late stages of pregnancy, moderate amounts of mild saline cathartics or mineral oil may be safely used to ease the condition.

With a planned diet, exercise and careful regular examinations of the bitch's condition, the breeder will find that many of the difficulties attending parturition will be lessened or abolished. The bitch in good condition at the close of gestation will have far less trouble in giving birth to her pups than will the bitch in poor condition, barring any nondietary troubles.


"Antrycide"
R. M. Moore, V.M. 3

British research chemists have produced a new weapon in the fight against trypanosomiasis, the group of blood parasite diseases transmitted by the tsetse fly. It is claimed that a single treatment with the new drug "Antrycide," will cure cattle of the two worst forms of the disease, Trypanosoma congoense and Trypanosoma vivax. It is also claimed to have been used successfully against T. brucei in cattle, horses and dogs; T. evansi in camels, and T. simiae in pigs.

This new drug is not only claimed to cure sick animals but also to immunize healthy ones. Experiments still in progress have already shown that injections of "Antrycide," via the subcutaneous route, will render cattle immune to various forms of the disease for six months or less; the period of immunity has not yet been exactly determined.

"Antrycide," 4-amino-6(2'-amino-6'-methylpyrimidy1-4'-amino) quinaldine-1, has no toxic effects and produces no undesirable reactions in the animal locally or generally. Moreover, its administration is so simple that in areas where veterinarians are scarce the farmer himself can be instructed on its use both prophylactically and therapeutically.

Supplies of this new drug are still limited for experimental purposes in the eastern part of Africa but will later on be extended to West Africa where the tsetse-borne blood parasites are found to be quite prevalent also.

Although this drug is not yet generally in the hands of American veterinarians and has only been proven against trypanosomiasis, it may be of value in the control of blood parasite diseases common to this country. Even though the anaplasmosis (Anaplasma marginale or A. centrale) and piroplasmosis (Babesia bigemina) organisms are not directly related to the trypanosomiasis organisms they are all blood stream protozoans and may all be susceptible to "Antrycide."

New Course

A course in the diseases of fur animals has been added to the curriculum of the College of Veterinary Medicine, the State College of Washington. The course includes discussion on bacterial, viral, nutritional and parasitic diseases of mink, fox and chinchilla. It will be given to the graduating seniors in veterinary medicine.

The class will be taught by Dr. John R. Gorham, assistant professor of Veterinary Hygiene and Pathology and Cooperating Agent, Bureau of Animal Industry, U.S.D.A. Doctor Gorham is in charge of the Pullman Fur Animal Disease Research Laboratory which is a cooperative project between the Bureau of Animal Industry and the State College of Washington.

The fur animal industry has long felt the need for veterinarians who have special training in fur animal disease work. It is hoped that this course will in part fill the need.—American Fur Breeder

Federal studies indicate that penicillin has no application in the preservation of food.

The Veterinary Student