

Nutrition In The South

A. H. Groth, B.S., M.S., D.V.M.*

The most serious nutritional problem with which southern veterinarians have long had to contend is simply the failure of southern farmers and stockmen to supply enough feed. There is nothing scientific or spectacular about such a conclusion, but the client and his livestock can be benefited far more if he can be made to understand the real cause of his trouble. True, it may sound more impressive to the client to speak of deficiencies of phosphorus, cobalt, iron, copper, or calcium, and there are areas in which they do exist. Fortunately though, nutrition in general has improved materially on southern farms during the past decade.

The principal reason for improved nutrition is the remarkable progress that is being made in the development of improved pastures. The longer growing season, which makes it possible to have growing crops for grazing during most months of the year, is a distinct advantage that southern states have over other sections of the country.

Establishing a productive pasture is difficult in many parts of the South. Many of the southern soils have been badly depleted of their original fertility as a result of continued planting to row crops with the attendant erosion. Calcium in the form of ground limestone or basic slag, phosphorus, potassium, and nitrogen have had to be added to many of these soils before a satisfactory stand of legumes and grasses could be established. Terracing in the rougher sections is a must, if erosion is to be controlled. Gullies and ditches must often be eliminated. Much has been learned about the preparation

of the seed bed and the time of planting.

A surprisingly large number of clovers and grasses that provide continuous grazing throughout most of the year can be successfully grown for pasture crops. Alfalfa is being successfully grown in parts of the South, where only a few years ago it was authoritatively stated that it could not be grown. From 4 to 7 cuttings of alfalfa are being harvested for hay and additional feed is sometimes available by grazing alfalfa fields early in the spring and late in the fall.

Field curing of hay is still a hazardous undertaking in much of this area. Rains may be sudden and frequent during the haying season. Hay driers that are being developed by some of the Agricultural Experiment Stations are removing much of the gamble and are making it possible to produce a better quality of hay. Modern machinery and equipment make it possible to harvest hay in a fraction of the time formerly required.

Oats planted in August, September, or October, can be grazed throughout the winter, then harvested in June or July for the grain and straw. Fields planted to oats are showing an annual increase in most of the southern states. Sudan grass and Johnson grass, the latter long a pest to the southern farmer, furnish late summer and fall grazing, or are cut for hay or silage.

These improvements make it possible for the southern stockman to provide an adequate supply of roughage for his farm animals. To the dairy farmer in particular, this is important, especially since this roughage can be green and succulent dur-

* *Regional Animal Disease Research Laboratory, Bureau of Animal Industry, Agricultural Research Administration, United States Department of Agriculture, Auburn, Alabama.*

ing much of the year. In spite of these possibilities, too many of our dairymen still do most of their feeding "out of the bag." Concentrates have a definite place in the rations of many of our farm animals, but they do not make for the most efficient utilization of the products of the soil by farm animals, particularly by ruminants.

Specific problems of nutritional origin do confront the stockman and the practicing veterinarian. One that is most frequently encountered is the so-called milk fever-ketosis complex. This condition continues to appear in dairy herds that are apparently well fed and well managed. Herds maintained under seemingly identical conditions, vary greatly in the incidence of such cases. Treatment that proves successful in some cases is entirely unsuccessful in others.

Dairy cows receiving insufficient and poor quality roughage during winter months frequently are difficult to settle. Many such cows respond to the administration of vitamin A or to access to green grazing crops or leafy green alfalfa hay. Dairy calves dropped during the winter can and do develop rickets. Lack of vitamins A and D may be factors in the increased susceptibility of dairy calves to respiratory infections. Feeding and management of dairy calves are of much concern to southern practitioners. Coccidia and gastro-intestinal parasites frequently complicate nutritional diseases of dairy calves.

Grass tetany may occur with considerable frequency in cattle grazing on a luxuriant growth of green oats or clover. Eternal vigilance must be practiced to guard against losses from bloat while grazing clovers and alfalfa. Farm animals with areas of unpigmented skin, develop photosensitivity when grazing on some of the clovers or green oats. This condition has been observed in Holstein-Friesian, Shorthorn, Hereford, and Brahma cattle in varying degrees of severity.

Purebred beef cattle, especially those individuals being fitted for show, may develop symptoms of vitamin A deficiency. Such cattle are often fed grass hay as

their sole roughage.

Soils in some of the Gulf Coast area are known to be phosphorus deficient. Successful animal husbandry practices in such areas must include the supplying of adequate phosphorus, either in bone meal and salt mixtures, in the drinking water, or by application of phosphates to the soil. Some soils in limited areas are lacking in some of the trace elements. Research at Southern Agricultural Experiment Stations has provided solutions to the lack of cobalt, copper, iron, and boron. These deficiencies may be, and often are, complicated by a lack of enough feed, especially enough good quality roughage. Here too, internal parasites may also be a complication.

The general practitioner must contend with certain other problems, which are not strictly of nutritional origin, but closely related. One such problem is the poisoning of livestock by the accidental eating of fertilizers or insecticides. Sodium nitrate, which is widely used as a source of nitrogen, annually kills many cattle and work animals. Empty sacks which should be burned or buried deeply, are left where livestock have access to them. Because of the salty taste of the fertilizer, farm animals find it very palatable and have actually eaten dirt in which varying amounts of nitrate of soda are present. Occasionally empty fertilizer sacks have been used for feed sacks, with losses resulting in animals that have later received the feed.

Calcium arsenate, although being replaced by DDT as an insecticide, is still used to combat the cotton boll weevil. Enough of the dust may be carried by the wind to make pastures that are adjacent to cotton fields, poisonous to livestock. Again, careless handling of containers may permit their accessibility to the livestock with subsequent losses.

The southern veterinarian must have a good understanding of animal husbandry in addition to his training in veterinary medicine. When so equipped he can, and does, give his clients service that is of real value in the building of a sound agricultural program.