

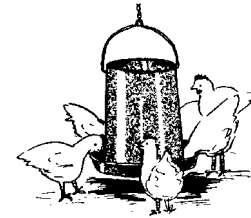


The University of Georgia

Cooperative Extension Service

College of Agricultural and Environmental Sciences / Athens, Georgia 30602-4356

JANUARY 1999



BACKYARD FLOCK TIP...

PROTEIN FOR THE BACKYARD FLOCK

Protein is one of the most important components of poultry feeds, and also one of the most expensive. The reason for rearing poultry, aside from the enjoyment of showing poultry or keeping birds for pets, is to produce either eggs or poultry meat. Both eggs and meat are composed of considerable amounts of protein. Adequate levels of this nutrient in the feed are thus extremely important. However, while its essential to have adequate protein in the feed for proper growth, development, and production, excess protein is simply a waste of money. Once the birds requirement has been met for this nutrient, any excess is simply used for energy.

Soybean meal is the most common protein source in poultry feeds in much of the world, including the United States. Meat and bone meal (a by-product meal composed of the inedible portions of swine and cattle carcasses) is also a very popular protein source. Both these ingredients contain about 50% protein. By contrast, grains such as corn, wheat, and sorghum usually have only between 7 and 12% protein. Other popular sources of protein include fish meal, poultry by-product meal, canola, cottonseed meal, and corn gluten meal.

The amount of protein needed by the backyard flock is generally less than that included in commercial feeds. This is because in most cases rapid growth or the highest attainable level of egg production, which may be important to the commercial producer, are not critical for the backyard flock. For commercial broiler feeds, protein levels usually are approximately 22% in the starter feed, decreasing to 18% just prior to slaughter. If a backyard producer wishes to use a single feed, one with about 20% protein should be adequate. For laying hens, commercial flocks at peak production are usually provided a diet with almost 18% protein, which may be decreased to 16% or less during the productive life of the flock. For those using a single layer feed, about 16% protein should be adequate.

PUTTING KNOWLEDGE TO WORK

The University of Georgia and Ft. Valley State College, the U.S. Department of Agriculture and counties of the state cooperating.
The Cooperative Extension service officers educational programs, assistance and materials to all people without regard to race, color, national origin, age, sex or disability
An equal opportunity/affirmative action organization committed to a diverse work force..

A confusing aspect of nutrition is that all types of protein do not have the same nutritive value. As an example, let's consider the different protein components of the animal body. Such constituents as horns, nails, and feathers are composed of protein just as are the fleshy parts of the body. However, the nutritive value of meat is far, far superior to that of the same amount of protein originating from these hard tissues. Protein is composed of combinations of different individual amino acids and the specific amino acid composition of a protein determines its nutritional quality. Some amino acids are much more important than others to the proper nutrition of the bird. Lysine and methionine are usually considered the most critical amino acids for poultry. In diets for the backyard flock, if soybean meal is the primary source of protein, supplemental lysine may not be needed. However, supplemental methionine is usually needed to ensure that the quality of the protein in the ration is adequate for optimum production, even when the quantity of protein appears adequate on the feed label.

Often times, one hears the terms plant protein and animal protein. The implication of these terms is obvious. As we mentioned above, some protein sources are of plant origin (such as soybean meal), while others are by-products of animal rendering (meat and bone meal). Some nutritionists like to have a mixture of plant and animal proteins in the feed they prepare for their flocks. Strictly speaking this is not necessary. Whether the essential amino acids are derived from plant or animal sources, the important thing is that adequate levels be included in the diet. However, including a variety of protein sources is generally a good idea from a quality point of view. Should one protein source in the feed inadvertently be of inferior quality, then the bird will have other sources of protein in the diet to ensure efficient production of meat or eggs.

In practical terms, purchase a high quality "complete" poultry diet with an adequate protein level for your backyard flock. For growing birds, the protein level should not be lower than 20 to 22%. For adult laying birds, a protein level of not less than 16 to 18% is necessary. The term "complete" indicates that the diet contains all of the essential amino acids, vitamins, minerals, etc. to help keep your birds healthy and productive. Never feed cracked corn, scratch feed, or other non-formulated diets. These feeds do not contain adequate protein or properly balanced amino acids and will not provide sufficient nutrition for your flock.



Nick Dale
Extension Poultry Scientist

County Extension Coordinator/Agent

****Consult with your poultry company representative before making management changes.****

“Your local County Extension Agent is a source of more information on this subject.”