

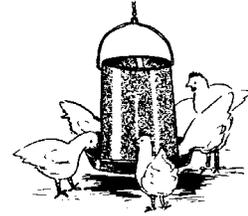


*The University of Georgia*

**Cooperative Extension Service**

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

MAY 2004



## ***BACKYARD FLOCK TIP . . .***

### **ALTERNATIVES TO SOYBEAN MEAL**

Feed prices have been moving up steadily during the past several months. This is obvious to everyone who raises poultry either as a hobby or as a business. The main reason for this has been a skyrocketing in the price of soybeans, brought on to a large extent by increased exports (which help offset the negative U.S. trade balance). Whatever the case, as most of the protein in poultry feeds comes from soybean meal, the impact of high soy prices is felt by everyone from major poultry-producing corporations to the owner of the backyard flock.

A number of small producers in the state of Georgia have contacted the Cooperative Extension Service asking about less expensive alternatives to soybean meal as a source of protein. If the following feed ingredients are available locally, they can be used to partially replace soybean meal in most poultry feeds.

#### *Meat and Bone Meal*

The typical meat and bone meal has about the same protein level as soybean meal. However, it has the advantage of also being high in calcium and phosphorus, 10% and 5%, respectively. The recent concern about mad cow disease should not discourage the use of this valuable feed ingredient here in the southeast. A 5% level of inclusion of meat and bone meal is popular.

#### *Peanut Meal*

This ingredient has become increasingly available during the past few years. Peanut meal has about the same protein as soybean meal (47-48%). However, this protein is not of the same quality as that in soy. Specifically, the critical amino acid lysine is very deficient in peanut meal. Thus, those who wish to use this ingredient should limit its incorporation to 3 or 4% of the diet. Higher levels of peanut meal will seriously reduce the amount of lysine and could increase the likelihood of aflatoxin contamination.

### **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..

### *Cottonseed Meal*

Cottonseed meal has somewhat less protein than soy (approximately 42%) and like peanut meal, is not a good source of lysine. Unless synthetic lysine can be added to the diet, use of cottonseed meal is usually limited to 4-5%. Gossypol is a compound found in cottonseed meal, which at high levels can depress growth and discolor the yolk of eggs. However, for the backyard flock, levels of inclusion of 5% should not cause noticeable problems.

### *Distiller's Dried Gains with Solubles*

This ingredient, commonly known as DDGS, is a by-product of fermentation. In past years, most DDGS came from the beverage industry. More recently, tremendous amounts are becoming available when corn is fermented to produce ethanol for motor fuels. DDGS has about 27% protein, which is about half way between that of corn and soy. Research at the University of Georgia indicates that DDGS can be used in all types of feeds, with maximum levels being between 10 and 15%.

All of the ingredients mentioned above are priced lower than soybean meal, and might be considered when attempting to produce a lower cost feed. However, it is necessary to bear in mind that all protein is not of the same quality. The amino acid composition of alternative protein sources must be taken into account when preparing feeds for the backyard flock so that the birds are not subjected to nutrient deficiencies.



Nicholas M. Dale  
Extension Poultry Scientist

Extension County Coordinator/Agent

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