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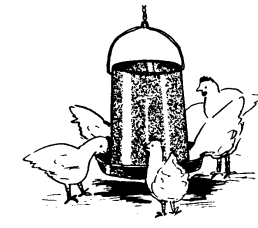
**Cooperative Extension Service**

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

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## *BACKYARD FLOCK...*

### **FACTORS INFLUENCING FEATHER LOSS IN BOBWHITE QUAIL**

During the month of November 2002, County Extension Agents and Bobwhite quail producers raised the questions “What are the reasons for feather loss with Bobwhite quail? How does one correct this problem?” Birds having feather loss are difficult to market to hunting preserves. Feather loss or “barebacks” can be related to several factors, but the most common causes are lighting, density, and nutrition.

**Lighting:** Birds require a certain amount of light for growth and reproduction. Light stimulates the bird’s brain and as a result they become active. However, Bobwhite quail exposed to constant lighting may start pecking each other, thus creating a loss of feathers. It is nearly impossible to restrict light with birds reared in a flight pen under natural conditions. One suggestion to prevent picking would be to place objects such as boards and tin in the flight pen which smaller birds can run and hide away from the more aggressive birds. Another approach is to plant small grains in the flight pen so that birds can peck at the stalk of the plant instead of picking feathers on other birds in the pen.

Some quail producers in South GA have retrofitted old swine buildings into quail facilities. One advantage with these enclosed buildings is that the lighting can be reduced between 5 and 14 weeks of age to discourage feather picking. However, birds require some lighting between 14 and 17 weeks to have enough energy to fly by the time they are sold to plantation owners. Raising quail in total darkness from 5 to 17 weeks of age may result in birds not being active due to decreased feed consumption, but having exposure to light from 14 to 17 weeks can help alleviate this problem.

#### **PUTTING KNOWLEDGE TO WORK**

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**Density:** Bobwhite quail raised in a flight-pen should have a density of 1 bird/ft<sup>2</sup>, whereas the density in an enclosed building should approximate 2 birds/ft<sup>2</sup>. The reason for the increased density with the enclosed facility is the amount of light can be limited throughout the growout. Field observations have indicated a considerable amount of feather loss can occur to 5 weeks of age when birds in the flight pens are kept in the 20% enclosed area of the flight pen. When the birds are turned out into the flight pen, make sure the density in the flight pen is not greater than 1.0 birds/ ft<sup>2</sup>. When the flight pen density is above 1 bird/ ft<sup>2</sup>, it may be more advantageous to build an additional flight pen. Also, problems with feather loss have occurred with quail reared in enclosed buildings when the density has approximated 3 birds/ ft<sup>2</sup>.

**Nutrition:** Bobwhite quail require nutrients, such as water, protein/amino acids, minerals, vitamins, fat, and carbohydrates, for growth, health, and reproduction. Proteins/amino acids are used by the bird for feathers, carcass meat, hormones, immune function, and organ development. Protein is comprised of twenty-two different compounds referred to as amino acids. Amino acids contain carbon, hydrogen, nitrogen, and some contain sulfur. Unfortunately, 10 of these amino acids cannot be produced at a sufficient rate by the bird and must be supplied by the diet. Methionine and cystine are sulfur containing amino acids that must be supplied by the diet.

Methionine can be converted into cystine in the body, the most prevalent amino acid used in feather formation. Bobwhite quail provided feed low in methionine can result in a deficiency of sulfur amino acids. A deficiency sign of birds provided low levels sulfur amino acids is feather picking. Bobwhite quail diets should contain 0.65% methionine and 1.10% methionine plus cystine during the starter phase and 0.58% methionine and 0.97% of methionine plus cystine for the grower period. A methionine analysis is very expensive usually about \$100/sample. Most of the feeds from commercial companies (Southern States, FRM, Purina) typically have adequate quality control programs so a methionine inadequacy should be unlikely if the birds are provided the appropriate feed. Methionine deficiency would be highly unlikely if the appropriate protein level is fed to a specific age of birds (28-30% protein = starter and 24-28% protein = grower). However, some factors such as temperature, disease, and density, can reduce feed consumption resulting in birds needing a higher level of methionine in the diet than under normal conditions.

Before jumping to the conclusion that feather loss is related solely to nutrition, check out the amount of lighting, place the objects in the flight pen, or estimate the bird density. Because birds are hard to break from their habits, it is very difficult to stop feather pecking once it starts. Placing additional methionine in the water will probably offer little benefit since most commercial Bobwhite quail feeds should be adequate in methionine.

## References

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*William A. Dozier, III*  
William A. Dozier

Extension Poultry Scientist

Extension County Coordinator/Agent