COMMERCIAL LEGHORN FEEDING CHALLENGES

David A. Roland

Over or underfeeding just 5% (one diet) can decrease returns up to 1 cent/doz or more. Due to the difficulties of continually feeding directly on target, producers are fortunate that when hens are fed near target, slightly over or under feeding is never a complete loss. For ex. If hens are underfed the loss in performance is partially offset by the lower feed cost. When hens are over fed the increased feed cost can be partially offset by slightly improved performance. The absolute loss incurred by over or under feeding is determined by feed cost, egg price, spread in egg price due to size, and ratio of energy to protein cost plus other factors.

TO FEED CORRECTLY REQUIRES: Rule # 1

!) Knowing the hens nutrient requirements

2) Having diets that are formulated correctly and balanced for all nutrients

3) Feeding correctly to ensure nutrient requirements are met

When the above 3 requirements are met and performance and feed intake are on target, feeding correctly is as easy as it gets. The same diet can be fed for an entire phase. When using a 4 phase program, only 4 diets may be required.

However, because many variables and interrelationships can influence each of the requirements in rule # 1, no one can continually feed directly on target. The goal is to feed as close on target as possible. When performance (production, egg wt., body wt., etc.) Is off target it may become necessary to deviate from the standard feeding program and feed a more or less dense diet. That is why it is often said, feeding is just as much an art as it is a science always requiring hands on effort. In some instances there may be reason to believe that something has effected or could affect one of the factors in rule #1 and a decision may be made to deviate from the normal feeding program . This could be done prior to observing performance challenges in hopes of preventing future challenges.

Because many factors other than nutrition can influence performance, it is important to know if poor performance is due to a nutrition challenge or something else. If poor performance challenges are not due to nutrition, trying to correct poor performance with better nutrition can further decrease returns.

The purpose of this newsletter is to give a couple of the most common examples of factors that can influence requirements in rule # 1 which could in turn affect performance and diet selection.

TO FEED CORRECTLY ALSO REQUIRES: RULE # 2

1) **Listening to what the hens are saying (performance) with correct interpretation**

2) **Understanding how and why specific nutritional challenges could be involved**

3) **Having as much information and knowledge available as possible when making diet selections**

FACTORS THAT COULD INFLUENCE PERFORMANCE AND/OR DIET SELECTION

1) **Changes in corn moisture content**
2) **Changes in nutrient (protein, AA) content of feed ingredients**
3) **Production above standard**
4) **Production below standard**
5) **Demand for larger eggs and spread in egg price due to size**
6) **High egg prices (profits)**
7) **Low egg prices (negative returns)**
8) **Feeding multiple stains same set of formulas**
9) **Low energy / protein cost ratios (cost of increasing protein levels)**
10) **ETC.**

CHANGES IN CORN MOISTURE

The moisture content of corn can vary up to 6 % or more especially in new crop corn. As moisture content increases, its nutritive value will decrease. For ex., if the moisture content of corn increases from 13.5 to 16.5 % , its nutrient (energy) content will decrease about 3% from 1545 to 1499 (about 46 kcal/lb). If the diet contains 60% corn, the energy level of the diet will be reduced about 28 Kcal/lb. The primary concern of reduced dietary energy level is increased feed consumption up to .5lb/100h/d or more.

It is necessary to determine if it is more economical to correct the energy and /or protein (AA) content of corn and reformulate or do nothing. For producers who do not use fat, the decision is easy for energy. The reduced dietary energy levels cannot be corrected and the producer has to live with the increased feed intake.

However for producers who use fat or other energy containing ingredients, it may be necessary to determine if the cost of maintaining dietary energy is more economical than making no correction. This question can be answered by calculating the cost of the increased feed consumption vs. increased cost to maintain dietary energy.

Regardless of the decision made, the hens have to be fed. If no correction in corn energy is made, and feed intake is .1 to .9 lb above the standard or goal for intake, should the diet fed be changed. For ex. If feed intake goes from 20.7 lb to 21 lb should the diet fed be changed from the 20 lb feed to the 21 lb feed (a lower protein and cheaper diet) to correct for the increase in feed intake. Remember, the diet contains a little lower protein (if protein has not been corrected) and energy etc., the hen knows this and is trying her best to correct by increasing consumption.

If the hen's diet is adjusted to a lower dense diet, we could be nullifying the hens automatic self correction resulting in reduced performance. Feed cost is less but the cost of reduced performance could be even greater. This is no easy call but the more information and knowledge one has available the more accurate the decision can be.

When making the decision use Rule # 2. Listen to what the birds are saying. Anticipate what hens will say if changes are not made. Based on current feed intake, egg prod., egg wt., feed cost, body wt., energy /protein cost ratio, egg price, spread in egg price due to size, egg size demands on the company, current returns in cents/doz., whether or not corn protein content was adjusted etc, the diet selection is made. All of the above information should be available but because of all the potentially inter-relations involved, it is still a judgment call. Essentially someone has to decide if it is more economical feeding a little more or little less nutrients than the feeding program calls for. The more information the producer has available the more accurate the decision and providing that information is one of the benefits of the EF&M program. .

CHANGES IN PROTEIN CONTENT OF FEED INGREDENTS

Knowing the correct protein (AA) content of ingredients corn and soy and especially alternate ingredients presents another continuous challenge. In my opinion it is better to use a running average protein (AA) content for corn and soy. The AA content of ingredients should be monitored as often as possible making changes when required. However for the most part, producers have to live with running averages.

Because the protein content of ingredients vary, it is always necessary to apply rule # 2. Listen to what the hens are saying. If Performance is below standard and if management problems can be ruled out , the first step is to challenge the hens with a more dense diet , if an improvement in performance is observed, the protein content of an ingredient may need to be adjusted. If performance and chemical analysis both confirm that an ingredient contains a lower protein (AA) level than that used , nutrient adjustments will be required especially if nothing in the near future indicates that protein content of an ingredient will return closer to the running average.

The producer is always challenged with using the correct nutrient analysis. It is an extremely important call to deviate from a running average corn or soy analysis especially when there is a low energy /protein cost ratio. In some instances , it could be more economical to use a corn lysine value .02 higher or lower than than average. The decision to do so has nothing to do with running protein average but simply a hedge on the bet.

A production manager can partially offset some formulation challenges, but the production manager can never fully optimize profits with diets formulated incorrectly. At the same time, if diets are not fed correctly, it doesn't matter how well the diets are formulated, profits will not be optimized. Feeding for optimal returns is complex and requires a lot of effort but the rewards can be great.