Economics Of Fat Use For Table Egg Producers

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The price of fat has increased from less than 10 cent to over 50 cent/lb. This increase in fat price is causing the use of fat in corn-soy layer diets to be re-evaluated.

At what fat price does it become uneconomical to maintain a minimum 0.5% added fat in all diets after egg size reaches large? For many producers this is a common practice and a million dollar question, so getting the answer correct is important.

To make the calculations requires knowing the benefits of fat. My research indicates that 0.5% fat vs. no added fat in a corn-soy diet gives 0.5% more eggs, 0.78% less consumption, and a 0.1 g larger egg. The larger egg is not too important because using a min. of .5% fat only enters the game after eggs reach large.

Using the above assumptions and current ingredient prices and the April 17, 2011 Urner Barry NE egg prices, it can be calculated that including a min. of 0.5% fat in a corn-soy diet gives the equivalent of $2.30/ton in reduced feed cost , $1.75 /ton in improved production and about 60 cent /ton from increased egg weight. That equals to $4.65 /ton which is close to the current cost ($4.34/ton) of adding 0.5% fat .

Conclusion : with 50 cent fat and current egg and ingredient prices it is about break even to maintain 0.5% added fat in diets after egg size reaches large . No credit has been given for any benefit of fat on dust, equipment die life, feed palatability, or egg size needs and that should be considered. Not maintaining the min. 0.5% fat inclusion at current prices for certain reduces feed cost about $4.00 /ton. The benefits of 0.5% added fat are best estimates based on many trials. Since egg and feed prices change the economics of fat use should be continually evaluated.

Considering the current high fat price should fat be used in peaking diets? The use of fat in peaking diets before egg size reaches large is also a common practice. With large spreads between medium and large, optimizing egg weight is so important it typically drives the feeding program but only as long as returns are greater than the cost.

It takes about 1.1 % added fat to increase energy 30 calories in a 20 lb peaking diet for W-36 hens or a 22 lb peaking diet for Bovans white hens . The cost of adding 30 calories with 50 cent fat and current ingredient prices vs. the same diet with no added fat is $9.48 /ton. The cost will vary depending upon cost and nutrient composition of the corn and soy used. It can be calculated that the value of the improved performance is greater than the cost with most of the increased returns coming from increased egg weight which increases the percentage of large eggs and decreases the percentage of medium eggs.

Conclusion: With current fat prices , it can still be economical to use some limited additional fat in peaking diets prior to reaching a 48 lb case weight depending upon price spreads. However the decision to use fat in this case is much more complex than simply maintaining a min. of .5 % added fat in all diets after egg size reaches large. Because protein is just as important as fat in increasing early egg size, percent dietary protein levels typically increase at the same time dietary energy levels are increased. Currently with another drop in egg price during the past week with only a 9 cent spread between medium and large the return from feeding normal levels of energy and protein is less than the cost. With the current high cost of fat and corn, the cost of increasing protein is relatively small compared to the cost of increasing energy**. Because of this, the question becomes should only protein with no added fat or protein with added fat be used to optimize egg wt.?** With current fat cost and low spreads in egg price using only protein appears to be more economical. There is some indication the price of corn will continue to increase. If this happens and soy-bean meal takes any dip, the cost of layer diets containing the lowest protein level could be the same as the cost of the diet containing the highest protein level and that will be a first for US egg producers.

Seeing the cost of maintaining a min. of 0.5% fat (10 lbs per ton) go from less than a dollar to over $4 /ton definitely requires a re-evaluation of fat and energy use. For certain at some price, fat will become uneconomical. However at the same time, the greater the feed cost, the more important the use of fat becomes. Example, if increasing dietary energy level 60 calories reduces feed intake about 4.6% total feed cost can be reduced the equivalent of $4.60 / ton for $100 /ton feed and $13.80/ ton for $300 /ton feed due to improved feed efficiency. That multiplication factor due to feed price along with spreads between medium and large helps keep fat in the diet. Because of that same multiplication factor, the higher feed cost becomes the more important controlling feed intake and feeding correctly is. Looking at returns as influenced by over or under consumption of protein, energy or protein and energy as feed and egg prices change continually emphasizes that. Least cost formulation only least costs ingredients to get the energy levels specified. The correct energy level for optimum performance and returns has to be determined by comparing the cost vs. benefits and doing that is referred to as econometric feeding.