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2002

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Scheideler, Sheila E. and Beck, Mary M., "G02-1482 Guidelines for a Non-Fasting Feeding Program for the Molting of Laying Hens" (2002). *Historical Materials from University of Nebraska-Lincoln Extension*. 1811. <https://digitalcommons.unl.edu/extensionhist/1811>

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## Guidelines for a Non-Fasting Feeding Program for the Molting of Laying Hens

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This NebGuide offers guidance on non-fasting feeding program for the molting of laying hens.

Laying hens are molted at the end of one laying cycle (*i.e.* one year) to induce a cessation of lay and rejuvenation of the reproductive tract and skeleton for a second cycle of egg production. This is based on the natural molting process that wild birds undergo annually and traditionally it has been induced by fasting the hens for a *short* period of time. Consumer pressure of late has resulted in Animal Welfare Guidelines put forward by the United Egg Producers recommending non-fasting molting procedures, which allow laying hens to continue to have access to a balanced feed ration during molt (UEP, 2000 and FASS Track, 2002). Non-fasting feeding programs for molting laying hens are new to the commercial egg industry. While trying to attain the same goals as in a fasting molt, management personnel may need to adjust some of their previous expectations of molt. The goals of a successful molt, 1) about 20-25 percent body weight loss; 2) cessation of lay long enough for total regression of the reproductive tract; and 3) acceptable and persistent second cycle performance, can still be accomplished with a non-fasting molt. However, the time period required to return to a peak second cycle could be shorter.

Laying hens cease laying eggs when their light stimulation and nutrient supply are diminished. The first step to a non-fasting molt is to reduce the photoperiod to eight hours. Hens should stay on eight hours of light until they have accomplished the first two goals of a molt — 20 percent body weight loss and cessation of lay for 2-3 weeks, and are ready to be stimulated back into lay. A non-fasting molt requires a minimum of 5-6 weeks to assure all hens have readied cessation of lay and adequate body weight loss. Hens will not go out of lay as quickly in a non-fasting molt compared to the traditional fasting molt.

The non-fasting molt diet needs to be a balanced low energy high fiber type of ration, preferably also low in sodium. This type of diet, A or B (*Table 1*), can be given *ad libitum* to the hens during the molt period. Hens will *variably* consume the feed, usually at less than previous intake levels. Because

the diet is so low in energy, a body weight loss of 10-20 percent should occur, depending on the condition of the hens prior to molting. For example, if your flock's average body weight was 1,550 grams before molt, you may expect less percent weight loss than if your flock's body weight had been 1,800 grams before molt. Achieving adequate weight loss and cessation of lay likely will take longer in a non-fasting feeding program for molt versus the traditional fasting molt program. If hens are not given adequate time out of lay (minimum of 2-3 weeks) on this type of program, their second cycle rate of egg production will be compromised, along with the potential for poorer post-molt shell quality.

It is important that the molt diet be balanced in protein and minerals (Molt Diets A and B - *Table 1*). Adequate calcium and available phosphorus in a 2:1 ratio are needed for replenishment of the hen's skeleton during molt. Calcium at 1.0 percent of the diet is not high enough to trigger ovulatory action, but should be adequate for skeleton formation. Protein also is needed for rebuilding muscle, and amino acids are still necessary for metabolic functions during molt. Overall, feeding a balanced

**Table 1. Example non-fasting feeding program and post-molt diets.**

<i>Ingredients</i>	0% Added Salt Diet A	0% Added Salt Diet B	Post- Molt	Peak Post Molt
Corn	54.5	47.6	51.6	61.2
Soybean meal	11.5	2.65	23.2	23.8
Wheat midds	29.1	41.4	12.9	—
Tallow	1.0	3.0	3.3	3.1
Limestone	1.36	2.8	6.1	8.7
Dicalcium phosphate	2.0	1.79	2.1	2.3
Salt	—	—	0.40	0.49
Methionine	0.18	0.15	0.17	0.11
Lysine	0.15	0.49	0.08	0.08
Mineral premix	0.10	0.075	0.10	0.10
Vitamin premix	0.05	0.075	0.05	0.05
<b>Nutrients</b>				
M.E., kcal/lb	1250	1233	1265	1295
Protein, %	10.0	12.5	15.5	16.5
TSAA, %	0.64	0.73	0.69	0.61
Calcium, %	1.0	1.5	2.85	3.85
Avail. Phosphorus, %	0.50	0.50	0.50	0.50
Sodium, %	0.04	0.08	0.18	0.20

**Table II. Lighting and feeding schedule for molt and post-molt.**

<i>Week of Molt</i>	<i>Photoperiod</i>	<i>Feeding Program</i>
One-six	8 hrs	Peak Molt/Low Sodium Diet
Seven	10 hrs	Peak Post-Molt Diet
Eight	12 hrs	Peak Post-Molt Diet
Nine	13 hrs	Peak Molt Diet
Ten	14 hrs	Peak Molt Diet
Eleven	15 hrs	Peak Molt Diet
Twelve	16 hrs	Peak Molt Diet

ration should help the hen through molt while still achieving the goals of a good molt. Mortality rates should actually be lower in non-fasting molting versus fasting methods.

After the hens have been out of egg production for at least 2-3 weeks, they may start back on a step-up lighting program similar to that used when they were pullets and on a post-molt diet (*Tables I and II*) until egg production is resumed, at which time they should be put on a post-molt peak diet (*Table I*). In some cases when the hens are coming back into egg production quickly, one may want to just skip the post molt diet and go straight to the post-molt peak diet.

A post-molt diet needs to continue to be low to moderate in energy and protein to avoid over-conditioning of the hens and excessive second cycle egg size. Phase feeding, in

which dietary M.E., protein, amino acids and phosphorus are decreased as the hens age through their second cycle, is also recommended.

The decision to molt a commercial laying hen flock *remains* a management decision based primarily on economic factors but should be balanced by welfare concerns. Adapting a non-fasting molt will increase some of the costs of molt which need to be considered in the total management decision.

## References

- FASS Track, 2002. U.S. Egg Industry Introduces Sweeping Changes - 6127. [Http:1164.243.220.139/fasstrack/news-item.asp?news\\_id=1517](http://1164.243.220.139/fasstrack/news-item.asp?news_id=1517). Accessed July 2, 2002.
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Feeding & Nutrition**  
Issued November 2002

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