



HOW TO AVOID FATTY BIRDS?

Fatty birds can be present in all flocks and, although less common, may occur among pullets... Excessive body fat may be related to several issues such as higher mortality, reduced egg production, and fatty liver syndrome (FLHS). It is therefore essential to monitor and manage body fat composition as early as possible to reach the best performances until the end of laying period. In many cases, the negative effects only become apparent as the birds reach the later stages of their production cycle.

GENETIC POINT OF VIEW

In our pure line population, overweight birds showing abdominal fat pad development are systematically discarded.

ORIGIN

The problem often starts during the pullet rearing phase. Overweight layers are usually overweight pullets.

- **Poor flock uniformity:** A lack of uniformity during the rearing phase can result in overfeeding of the heavier ones which makes them getting fatty.
- **Improper Monitoring:** Inaccurate body weight controls or using a low sample size prevents layer farmers from correctly adjusting the feeding during whole growing period (0-18 weeks).



Too fat pullet (12weeks) Laying hen, good level of fat Too fat laying hen

- **Inappropriate dietary and feeding strategies during the rearing period** can lead to unwanted fat deposition. Specifically, diets with excessive energy and protein will convert to excess fat tissue. Furthermore, if phase feeding is not applied correctly or if the same feed formulation is used for too long birds may accumulate additional fatty tissue. Finally, the exclusive use of pellet or crumble feed throughout the entire rearing period can also contribute to the development of fatty birds.

CONTROL TO DO

- Ensure proper monitoring of pullet growth rate. Weigh your birds (pullets & laying hens) on a regular basis.
- Assess the bird's body fat composition through autopsies or using the bioelectrical impedance method.
- Check whether pullets are being kept too long on a specific feeding phase, and make sure diet transitions are carried out properly during rearing.
- Check if the diets provide excessive levels of energy and protein.
- Check the amount of coarse particles in the feeds.

MANAGEMENT IMPACTS

Dietary changes must be supported by good environmental practices.

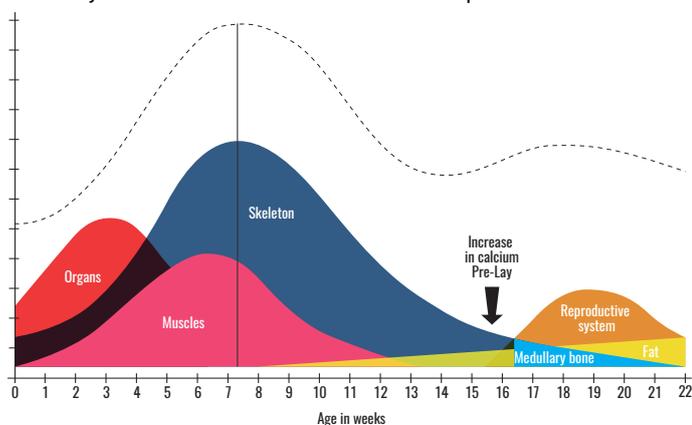
- **Monitor Body Weight and Condition:**
 - * Weigh birds every week, from first



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week of age to track progress. The goal is to follow the target bodyweight and uniformity standards.

- * Check the abdominal fat pad and overall physical condition such as breast muscle score to assess the body reserves as determining the body weight alone can be misleading.
- It is highly probable that keeping pullets on a specific phase feeding (like the Starter or Grower diet) for too long, without properly transitioning to the next phase, is a contributing factor to overweight laying hens.
- Encourage activity: For aviary system or free-range system, encouraging movement and reducing access to easily consume feed sources can help burn calories.



Before 8 weeks of age, pullet's body weight usually consists of a good composition of muscles, organs, and skeleton. However, at 16 weeks of age, reaching the target body weight alone is not enough to determine if pullets are in good condition, as they may still have excess body fat.

NUTRITION IMPACTS

The primary solution is to optimize energy and protein intake during the pullet period, especially after 8 weeks of age, to prevent excessive fat tissue. Excessive protein and energy intake during the pullet period will lead to the formation of more fat tissue than targeted, resulting in fatty birds at the beginning and subsequent laying of the flock.

- **Optimizing Dietary Energy:** The most direct step is to avoid too high metabolizable energy (ME) content of the feed. Hens primarily adjust their feed intake to meet their Metabolizable Energy (ME) requirement. A high energy diet leads to lower feed consumption, and a low energy diet leads to higher consumption. Excessive dietary ME during high temperatures (when the hen's maintenance needs are lowest) results in a surplus of energy intake. This excess energy is converted to fat in the liver, increasing the risk of Fatty Liver Hemorrhagic Syndrome (FLHS), which is a major cause of mortality, especially in cage systems. During summer, dietary energy density should be increased slightly by replacing some carbohydrates with fat/oil.

- **Optimizing Protein and Amino Acids:** Dietary protein and amino acid levels should be calculated considering egg mass and maintenance requirements, as well as the flock's average feed intake. More amino acids and protein intake than the birds' needs will result in fatty birds. Optimization of protein, rather than optimization of digestible amino acids in the diets, will also result in fatty birds.
- **Increasing Fiber Content:** Using insoluble fiber rich raw materials (sunflower meal, wheat, wheat bran, barley, DDGS, commercial fiber source etc.) in the feed can fill the digestive tract, increasing satiety without adding significant calories. This strategy prevents overconsumption of energy and protein.
- Laying hens naturally prefer to eat the larger particles in their feed. Therefore, it implies that a heterogeneous feed (or too coarse) could create some selection by the birds. In this situation, birds will preferentially eat the big particles. In fact, the largest particles, usually cereals, are high in energy and can lead to fatty birds. The feed mill should produce a homogeneous feed. In 90 % of the cases, improving the homogeneity means reducing the average size of the particles, because it is easier to produce a fine and homogeneous feed than a coarse one. Please see our feed granulometry suggestions below:

PARTICLE DIAMETER	STARTER	GROWER	DEVELOPER	PRODUCTION
<0,5 mm	max 5%	max 5%	max 5%	max 5%
0.5 - 1 mm	max 15%	max 15%	max 15%	max 15%
1 - 2 mm	50-60 %	45-55 %	25-35 %	20-30 %
2 - 3.2 mm	10-20 %	15-25 %	25-35 %	30 -40 %
> 3,2 mm	max 0 %	max 0 %	max 10 %	max 10 %

- The use of pellets and/or crumble feed throughout rearing period can cause birds to become fatty. Pellet or crumble feed should be avoided, especially after 8 weeks of age.

CONCLUSION

Managing and preventing fatty laying hens is achieved primarily through rigorous monitoring body weight and precise phase feeding during the pullet stage, as keeping birds on high-energy and protein diets for too long leads to excessive fat accumulation and lower egg production, low persistency and economic losses like FLHS and mortality. Key controls involve weekly weighing, checking the fat status, using homogenous feed and managing energy and protein intake by adjusting the diet's Metabolizable Energy (ME) content, incorporating fibre for satiety, and ensuring all dietary transitions are made on time according to the target body weight and age.

For more details, please consult our website with the [nutrition guide](#) & all the [management guides](#), and our [NovoCenter](#).