

Induced Molting in the U.S. Commercial Layer Industry
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Molting is a part of natural avian physiology in which the body undergoes a rejuvenation process in order to maintain a healthy productive condition. Domesticated birds will naturally molt once per year, triggered by the declining daylengths of the fall. During this time, feed consumption is reduced and feathers are lost. New feathers grow to form a full plumage for the bird's protection in the colder weather.

Commercial layers are not exposed to the natural daylength changes that would normally induce molt. They are kept in environmentally controlled houses that provide their needs for the production of eggs. Although layer flocks could be kept in production longer than a year without a rest, the demands of egg production become apparent in their reduced rate of egg production, reduced egg quality, and loss of feathers. Feathers function as insulation for the bird's body and molting renews the plumage for the birds' protection against temperature fluctuations. In order to live a longer productive life, the commercial layer will benefit from a rest and artificially induced molt to rejuvenate the body.

The practice of molting in the layer industry extends the productive life of a flock by about 40 percent. A single cycle flock produces eggs between about 20 and 80 weeks of age, for a 60-week production period. When induced molting is used, it normally occurs at about 70 weeks, so the first cycle is 20 to 70 weeks and the second cycle is about 77 to 110 weeks, for a total of 83 weeks in active egg production. It is estimated that about two-thirds of all layers in the United States are molted. If molting were not utilized at all, it would mean that most layer flocks would be processed for poultry meat at a much younger age. In order to replace them and maintain the market demand for eggs, more female chicks would have to be hatched and grown and an equal number of male chicks destroyed in the process. This would require approximately one-third more breeder flocks, hatchery space, and growing houses, meaning more animal lives being utilized in the process. Molting is a more efficient production system, benefiting both the producer and the animals.

The commercial practice of induced molting achieves the physiological results of the natural process in a controlled manner in environmentally controlled houses. The duration of light per day is reduced and feed is withdrawn for a period of 5-10 days. Water is kept available. The objective is to reduce body weight by 25-30 percent, or back to the original body weight of the mature pullet before the onset of egg production. The birds stop laying eggs and use body fat reserves for their energy supply. Feathers are shed during this period and are quickly replaced when feeding is resumed. House temperatures are maintained in the range of 70-80 degrees Fahrenheit for the birds' comfort and to control the rate of body weight loss.

Sometimes limited feeding is used to control body weight loss and to manage the time that eggs are not produced. Body weight and mortality are monitored daily to determine the proper time to resume feeding. Special feeds are formulated for the post-molt period which help replenish the birds' calcium reserves and grow new feathers. Vaccinations are often administered to provide additional disease protection in the second cycle of production. In a properly administered induced molt, mortality rates are not appreciably increased above those in normal production.

Concerns have been raised about the effects of molting on salmonella (SE) infection in layer flocks. Under laboratory conditions, some experiments have shown an increase in susceptibility to SE in molted hens; however, it is unknown how this translates to actual commercial conditions. Field evidence does not appear to support this concern. Companies monitoring for SE find no relationship with molting. In many cases, the larger eggs produced after a molt are already being sent to a breaking/pasteurization plant.

Induced molting achieves the results of a natural physiological process in commercial conditions. It is done in a manner that accelerates the process and synchronizes it in all birds at one time so it can be properly managed. Molting is ultimately beneficial for the layer and reduces the number of animal lives utilized to supply a cost-effective nutrient-rich food for the human population.

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