POULTRY SCIENCE AND TECHNOLOGY GUIDE

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Induced Molting as a Management Tool

Because of increasing economic pressures, the commercial egg industry must make maximum use of its resources. High interest costs and the need to lower production costs have led many enterprises to use induced molting programs.

An induced molt causes all of the hens in a flock to go out of production for a period of time. During this time regression and rejuvenation of the reproductive tract occurs, accompanied by the loss and replacement of feathers. After a molt, the hen's production rate usually peaks slightly below the previous peak rate, and egg quality is improved.

Molting and Egg Size

For the egg marketer, induced molting offers a means of matching the egg supply with market conditions. Molted flocks produce a higher proportion of larger eggs than do first-cycle flocks (see Table 1).

Periods when high prices or premiums are paid for these larger eggs (usually during the summer) favor molted flocks. Periods when the price spread between medium and large eggs is small (usually in the winter and spring) favor production from pullet flocks. Regardless of the time of year, if flock placements and molting schedules can be adjusted to take advantage of anticipated market conditions, molted flocks can produce greater returns per hen than single-cycle flocks.

Hen Depreciation

An even greater benefit of induced molting is that it reduces hen cost per dozen eggs because it lengthens the productive life of the hen. On the average, the cost of a pullet is spread over 20 dozen eggs, and a replacement flock is purchased annually. A molting program allows the pullet cost to be spread over an average of about 31 dozen eggs, and replacement flocks are purchased less often — typically, three times in five years. This difference may reduce egg production cost by more than 4 cents per dozen if pullet costs are high. When pullet prices are low, this savings may fall below 3 cents per dozen.

Feed Efficiency

As always, you can't get something for nothing. In the case of induced molting, a major disadvantage is that it leads to poorer feed efficiency.

The amount that feed efficiency will drop depends on several factors, including strain, season, equipment and housing type, nutrition, and whether the molting technique is applied properly. If you calculate feed efficiency for a first-cycle flock by including the feed needed to grow a pullet and for the molted flock by including the molt feeds, then you will find that the molted flock will have a better overall feed efficiency. If, however, you calculate feed efficiency from 50 percent production for first-cycle and for molted flocks, you will find that the molted flocks have a poorer feed efficiency.

Molting from the Producer's Viewpoint

The decision whether or not to molt seldom rests with the contract egg producer. A successful molting program requires close cooperation between the production and marketing segments of the firm. At no point is this more important than at the laying house.

A variety of induced molting methods are used today. Poultry Science and Technology Guide No. 10, "Induced Molting of Commercial Layers," outlines the most successful molting techniques available. Regardless of the method used, molting requires strict adherence to prescribed methods and careful management of the hens and facilities.

What to Expect from a Molting Program

When you embark on an induced molting program you should be prepared for a number of changes. The most noticeable effect will be a reduction in the total number of eggs sold. You should expect an average of about 7 percent fewer eggs from molted flocks than from single-cycle flocks. For example, over a five-year period, five single-cycle flocks of 35,000 hens will produce about 3.5 million dozen eggs. Over the same period, three molted flocks of 35,000 hens will produce about 3.27 million dozen

eggs, a difference of 230,000 dozen. This difference will obviously result in lower egg income unless specific arrangements are made to offset it.

Another noticeable change involves egg quality (see Table 1). A reduction in grade-out is normal and requires the cooperation of the egg packer if the molting program is to be successful. What this means to the producer is that equipment maintenance, adjustment, and operation are even more critical with a molted flock than with a single-cycle flock to insure maximum egg yield. For example, a reduction in Grade A yield of 0.87 percent from a 35,000-hen flock can reduce income by over $280 per year. Thus, little differences can cost money, and daily attention to operating details is very important.

A variety of adjustment methods have been used to offset the potential reduction in income. These include providing a cash payment to the producer during the time when the birds are out of production, increasing the contract price for eggs from the second laying cycle, or decreasing the penalty for undergrade eggs.

To the egg producer, a major advantage of induced molting is the reduction in time that the house is not producing income. Because flocks are replaced less frequently, the laying house will be empty less often, which can help smooth out the egg producer's cash flow.

In summary, induced molting offers distinct economic advantages to the commercial egg industry. A molting program must be a team effort to be successful. Before deciding to initiate a molting program, carefully consider all costs and benefits. If your operation, facilities, labor, or management capabilities will not permit you to follow prescribed molting procedures strictly, you should consider other methods of reducing your production costs.

Table 1. Typical Egg Sizes for Molted and Single-Cycle Flocks

Size or quality	Weight (oz per dozen)	Percentage of eggs	
		Single-cycle flocks	Molted flocks
Extra large	Over 27	30	39
Large	24 to 27	41	43
Medium	21 to 24	17	12
Small	18 to 21	8	5
Peewee	Under 18	4	1
Grade A		93	91
Checked and cracked		3	4

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