



Poultry Patter

AGRICULTURAL EXTENSION SERVICE • INSTITUTE OF AGRICULTURE
UNIVERSITY OF MINNESOTA



Vol. 3 No. 3 May 1965

LIGHT MANAGEMENT FOR GROWING PULLETS

R. N. Shoffner, Professor
Department of Poultry Science



Regulation of day length is an important management factor for growing pullets as well as those in the laying house. This is especially so for "off-season" egg production.

The biological clock of birds is largely regulated by photoperiod. The mainspring of this regulator is the diurnal cycle--the ratio of light and dark in the 24-hour period. Another factor is the change that occurs in the ratio of light to dark, as is experienced in the seasonal changes of the decreasing days in the fall and the increasing days in the spring.

Day lengths are a powerful influence on sexual activity, as shown by the following experiences: (1) Young growing birds exposed to long days or continuous light often lay poorly or not at all when they reach sexual maturity. (2) Day lengths that are decreasing or are short (less than 8 hours in length) can discourage the onset of egg production or else throw birds out of production. (3) Increasing day lengths following a period of short days is a powerful stimulus for bringing pullets into egg production.

Lighting Programs

There are several lighting programs that can provide sound, healthy pullets ready for the laying house. Some of these can be used in windowless, blacked-out

houses and some of them can be used in the conventional houses which cannot be blacked out.

If you have a windowless house that can be blacked out and provided with adequate ventilation, then pullets should be maintained at a constant 6- to 8-hour day from hatching or shortly thereafter until they reach 20 weeks of age. At 20 weeks of age the day length can be increased by 15 minutes per week until 16 hours or so is attained. Or at 23 weeks of age the light may be increased abruptly to 13 hours and then followed by gradual increases of 15 minutes per week to 17 or 18 hours thereafter.

The pullets that are reared under the short-day program usually require less feed and are held off until all are ready to come into production.

Experience has shown that these birds lay at a very good rate and often with less mortality.

Another program is called the two-step lighting program. It also requires a blacked-out rearing house in which the pullets are maintained on a 13- to 15-hour day from hatching until they reach approximately 14 weeks of age, and then the day length is abruptly decreased to 6 or 8 hours until they reach 22 to 24 weeks. At this time the day length is abruptly increased back to 14 hours of light and about the same good results are experienced as described in the previous light program. In this type of program, the short days after 14 weeks of age act as a conditioning period after which the birds readily respond at 20 weeks to the increased light.

In case one has a house in which it is difficult or impossible to use the blacked-out system a step-down, step-up lighting program may be used to avoid the undesirable influences of the increasing day lengths on developing pullets. Pullets may be started on a long day of 20 to 24 hours, but then reduce the light some 15 to 30 minutes per week, so that by the time the pullets reach sexual maturity (20 to 22 weeks of age) the decreased day length and the normal day length exactly match. At this time the light should be stepped abruptly upward some 2 to 3 hours as a stimulus to bring the pullets into production.

Guide To Use Of Light

The following are good rules to follow:

1. Don't use continuous light for growing pullets. Expose them to a decreasing day or else a constant 6- to 8-hour day length.
2. Do not increase day lengths to growing pullets until they have reached 20 to 22 weeks of age and then increase to 13 hours or more per day.
3. Do not decrease the day length on pullets after they begin to lay as this will throw them out of production.

4. After the birds come into production, increasing the light gradually about 15 minutes per week up to 18 hours per day is sometimes beneficial for maintaining egg production.

5. Be sure that adequate light, at least 2-foot-candle intensity, is provided over the entire laying house. If there are large areas of dimness in the house, birds that remain in these areas may not receive adequate light.

6. If you are buying started pullets, be sure to find out the lighting program that the grower used prior to the time that you want to stimulate the pullets into production. It may be necessary for you to keep them on shortened day for several weeks before stimulating them into egg production if you desire maximum output.

7. Either morning or evening lights or some combination of both are satisfactory. The one to use depends upon the best timing for your own management situation.

Light management rules are simple and birds will respond to the maximum when given the proper amount of light.



Poultry Patter

IN THIS ISSUE. . . Light Management
for Growing Pullets

Agricultural Extension Service
Institute of Agriculture
University of Minnesota
St. Paul, Minnesota 55101

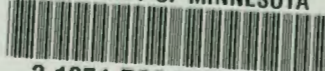
**PENALTY FOR PRIVATE
USE TO AVOID PAYMENT
OF POSTAGE, \$300**

ROLAND ABRAHAM, acting director
Cooperative agricultural ex-
tension work, acts of May 8
and June 30, 1914.

OFFICIAL BUSINESS

2M 5-65

UNIVERSITY OF MINNESOTA



3 1951 D03 722193 V