

# Unit D: Egg Production

## Lesson 4: Producing Layers

# Terms

- broodiness
- caged layer production
- floor production
- layers



**I. Layers** are chickens that are used to produce large quantities of eggs.

- A. Laying hens that are comfortable and given proper environments to grow will be very productive.
- B. Housing requirements for brooding and rearing chicks and pullets can be quite minimal if done in late spring and summer.
- C. Almost any small building that meets the floor-space requirements for the desired-size flock can be used.

D. Equipment for raising layers is similar to that of all poultry.

1. Usually, three sizes of feed hoppers are recommended so that birds, as they are growing, can easily eat without wasting feed.
2. Hanging tube-type feeders that can be adjusted in height as the birds grow are becoming very popular.



3. Place a platform under waterers to avoid wet litter and reduce the amount of cleaning required of the house.
4. Automatic waterers save labor, even with small flocks.



- E. The house and equipment should be thoroughly cleaned and disinfected before starting chicks.
1. If chicks have been in the house previously, remove all the litter and wash the house and equipment with pressurized water.
  2. Scrub and scrape all organic matter from building and equipment surfaces.
  3. After cleaning, disinfect building and equipment using an approved compound according to the product manufacturer's directions.
  4. Dry and air the building and then place 5 to 10 cm of wood shavings, straw, or other litter material on the floor.



F. Place a cardboard fence around the brooding area to confine the chicks to the heat source for the first week.

1. Infrared lamps provide a convenient heat source for brooding chicks.
2. Use porcelain sockets approved for these lamps and suspend the lamps with a chain or wire (not the electric cord) so they are no closer than 38 cm to the litter.



- a. If the average brooder house temperature is 10 degrees C, one 250 watt infrared lamp is generally sufficient for heating 80 chicks.
- b. One chick can be added to this estimate for every degree over 10° C.

3. You should use more than one lamp so the chicks will not be without heat if a lamp burns out.
  - a. Supply more heat by lowering the lamps to 38 cm above the litter or by using more or higher-wattage lamps.
  - b. To reduce heat, turn off some lamps, use smaller lamps, or raise the lamps to 70 cm above the litter.

4. Only the chicks are being heated and not the air, so air temperature measurements cannot be used as a guide to chick comfort when using infrared lamps.



G. Provide 15 square centimeters foot of brooder house space per chick from 1 day to 6 weeks of age.



- H. Place feed on box lids or trays from cut-down card-board boxes for the first few days.
1. Feed and water should be available to the chicks as soon as they arrive.
  2. Provide 2.5 lineal centimeters of feeding space per chick at the hoppers at first and increase to about 5 centimeters after chicks are 2 weeks old.



3. After 8 weeks, provide 7.5 to 10 cm of feeding space for growing pullets. A hanging tube-type feeder 38 centimeters in diameter will feed about 30 birds.
4. Less feed is wasted by filling hoppers only half full and adjusting feeder height or size to bird size.
5. Provide a 3.7 L water fountain per 50 chicks during the first 2 weeks, Increase the number or size of waterers from 2 to 10 weeks to provide 1 meter of watering space per 100 birds or 3.7 liter capacity per 10 birds if using fountains.



## II. The housing and management of layer hens can be carried out using one of two methods, **caged layer production** or **floor production**.

- A. Use of either method can keep the hens in production throughout the year if proper environmental and nutritional needs are met.
- B. The poultry house should be located away from other farm structures.
- C. The ground should allow good water drainage.

D. Adequate light fixtures are needed to provide proper light intensity.

1. Adequate light is present if the water and feed levels in the troughs can be seen after allowing enough time for your eyes to adjust to the dim lighting.
2. Fresh, clean water should be available at all times.



- E. The house should allow for plenty of ventilation and sunlight.
1. Place 2.5 centimeter, poultry wire netting over all openings to separate the hens from other birds and animals, both wild and domestic.
  2. Removable curtains or doors are recommended so the openings can be opened or closed as the weather changes. Keep the house dry and comfortable by ventilating from all sides in the summer and closing most openings in winter.

F. The **caged layer production** method consists of placing the hens in wire cages with feed and water being provided to each cage.

1. The birds are housed at a capacity of two to three hens in each cage, which measures approximately 30 cm x 40 cm x 45 cm.
2. The cages are arranged in rows which are placed on leg supports or suspended from the ceiling so the floors of the cages are about 60 to 90 cm above the ground.

3. Water is supplied by individual cup waterers or a long trough outside the cages that extends the length of the row of cages.
4. The feed trough is also located outside the cages and runs parallel to the water trough on the opposite side of each cage.
5. The cages are designed so the eggs will roll out of the cage to a holding area by means of a slanted wire floor.
6. This method of housing is used primarily with egg-type layers kept for infertile egg production.



G. The **floor production** method is designed for either egg-type or broiler-type birds kept for fertile or infertile eggs.

1. In commercial flocks this method is used when fertile eggs for hatching are needed.
2. The birds are maintained in the house on a litter covered floor, giving the term floor production.





- H. One nest 35.5 cm wide, 30.5 cm high, and 40 cm deep is needed for each four hens.
1. A mash hopper 1.5 m long and open on both sides is adequate for 25 hens.
  2. Three 11 Liter pans provide adequate watering space for 30 hens.
  3. Clean, scrub and disinfect the house and equipment thoroughly before placing the pullets in the laying house after it has dried.
  4. Put 7 cm of litter material in the nests and 10 to 15 cm of litter on the floor.

- I. **Broodiness** is often a problem in floor production housing.
  1. It is characterized by a hen wanting to build a permanent nest and begin "setting."
  2. The problem can be solved by removing the hen from the flock and placing her in a wire-floored cage for 3 to 4 days.
  3. Ample feed and water should be supplied to the affected hen.
  4. The hen can then usually be returned to the flock with no further problem.
  5. The treatment can be repeated if the hen continues to be broody.

III. Regardless of which production method is used, the 22-week old pullets should be given an increased daily light schedule after being placed in the laying house.

A. The length of daily light should be increased 15 minutes each week after the birds enter the laying house.

1. The increased light will stimulate egg production and help maintain production throughout the year.
2. The day length increases should continue until the birds are receiving 16-18 hours of light each day.
3. The day length should remain the same for the rest of the laying period.

B. After the birds begin to produce eggs, the total duration of light, including both natural and artificial, should not be reduced.

IV. Providing the proper nutrition is not only important to the bird but also to the formation of eggs.

A. The birds should be fed a nutritionally balanced commercial laying mash containing 16 percent protein.

1. Calcium is the most critical element in the feed because it is crucial to the development of eggshells.
2. Lack of calcium can result in thin egg shells which can break before hatching.

- B. Use a special breeder ration if the eggs are being saved for hatching purposes.
  - 1. These breeder diets contain higher levels of vitamins that help produce higher hatchability and healthier chicks.
- C. Poultry older than 16-18 weeks do not require a ration containing a coccidiostat unless a coccidiosis outbreak occurs.
- D. If a commercially produced layer ration is provided, additional oyster shell, grit or grain is not needed.



- E. A starter mash is generally fed for the first 6 to 8 weeks.
  - 1. Pullets are then fed a grower or developer mash until they are ready to lay at about 20 weeks of age.
  - 2. They should be fed a laying mash when they start to lay eggs.
- F. Pullets having access to a yard or range can supplement their diet with green feed.
  - 1. Chicks or pullets should have some chick- or pullet- size grit available at the appropriate age.

# Review/Summary

- 1. What materials and equipment are needed for the production and growth of layers?**
- 2. What materials and equipment are used in raising mature laying hens?**
- 3. What lighting is needed for egg production?**
- 4. What are the components of a layer ration?**