



Raising Poultry the Organic Way - Management and Production

Fact Sheet No. 2.508

Livestock Series/Health

Howard Enos* (3/20)

Most chicken breeds will start laying when they are four and one-half to six months old. If you purchase chicks in the spring, they should produce eggs in the fall. If you do not want to wait this long, consider purchasing birds that are already laying. Egg production decreases as a hen ages, maximum production occurs under two years of age. Managing your flock age also helps with disease prevention. Younger hens tend to be healthier. If you purchase from other flocks', it is important to have the vaccination and feeding history from that flock.

Egg Production

A hen's egg production rate is at its highest from the ages of six months to two years. After that time, their production decreases. Egg production is activated by the chicken's pituitary gland and is affected by the amount of light the chicken experiences. During winter nights when there are fewer hours of light, hens will produce fewer eggs. One method to alter this natural cycle is to provide a light on a timer in the coop to provide additional light. The ideal number of hours of light for egg production is 14 to 15 hours. Any additional light may cause some birds to begin

cannibalizing. Lights in the coop may also pose a risk as fire hazards.

Winter time also brings a temperature decrease. Chickens are equipped to handle colder temperatures, however, if you live in the mountains or areas that frequently experience sub-zero temperatures, you may want to select breeds that handle the colder temperatures better. These breeds have smaller combs or wattles, so they do not freeze. These breeds may produce fewer eggs than thinner breeds, but their hardiness will pay off in more extreme situations. To help your chickens handle the colder temperatures, make sure they have unfrozen water and plenty of feed, consumption will increase to help maintain body heat and you may choose to add warm oatmeal to the feeding ration. You may also provide them with an insulated coop with a light to add some warmth. When looking for additional heat sources, make sure they can be easily cleaned to keep free of dust, feathers and down which can accumulate from normal bird activity. This accumulation could cause a fire in the coop.



Quick Facts

- Hens will lay their first eggs anywhere from four and one half to six months of age, depending on breed and other factors.
- Egg production is controlled by the chicken's pituitary gland, which is activated by the length of daylight. This decreases egg production in the fall and winter.
- Artificial lights can artificially lengthen the day and increase egg production in the colder months.
- Chickens that are not producing should be culled because of the expense of feeding nonproductive birds.

**Howard Enos, CSU Extension Associate Professor, Poultry Science; Revised 2020, Robin Young, Archuleta County Director; Travis Hoesli, Grand County Director; Todd Hagenbuch, Routt County Director; Sharon Bokan, Small Acreage Coordinator Boulder County Extension*

Water should be checked to make sure that it is not frozen because it is critical to chicken's health and egg production. You may want to consider a heater for the water, but you will need to ensure it is working properly and that it and the cords leading to it are not located where birds can peck and damage them. They could potentially electrocute themselves or start a fire.

When temperatures are colder or hotter, it is a good idea to collect the eggs more frequently. Cold weather can cause the eggs to freeze and hotter weather can cause them to spoil sooner.

How Long to Keep Layers?

Eventually the small flock owner will need to decide if they want to keep older birds because they have now become family pets or whether to cull or sell them. The cost of feed versus the number of eggs may be the deciding factor.

In commercial egg production, hens are replaced annually. The commercial producer is seeking to maximize egg production per pound of feed, so they cull their birds more frequently than the small flock owner. After a hen has been laying eggs for a year, her production will decrease by 35 percent. In her first year of laying, a hen will produce approximately 300 – 320 eggs, after that her production will drop to approximately 200 – 220 eggs per year, and each year after her egg production will continue to drop. However, you may notice the size of her eggs will increase. The small flock owner needs to decide at what point is it

financially not worth it to keep feeding a bird who is not producing eggs on a regular basis. They may also accept the fact that the bird has become a pet.

A small flock owner may want to develop a relationship with a larger producer in their area so they can purchase culls from the larger flock that are still laying rather than raising chicks. They may be able to purchase birds from their local 4-H or FFA member after a county fair. If you do this, you will want to get the vaccination information from the owner. To prevent disease, it is best to have culled your previous flock before bringing home new birds. Also, make sure to clean and disinfect the coop and leave it empty for two weeks prior to bringing in a new flock. Biosecurity measures should be put in place whenever you introduce new birds to an existing flock.

Forced Molting

Egg production may decrease for many reasons. Two of the most common and natural reasons for egg production decrease are limited light during the winter and molting. Placing a light in the coop will help with winter light and may force molt.

If the chickens are not laying eggs, the owner may want to force-molt the birds. Molting is a natural process that may be aided by light.

To force birds to molt, you will enclose the birds in the coop with all windows covered so it is dark. Make sure that the birds have water but no feed for three days. Following this period, you will

provide them a bulky feed, like oats, to begin the molting process. After two weeks the normal feed ration may be resumed. Once their new feathers have grown, they will begin to lay again.

Culling

If a small flock owner is seeking to maximize their egg production, they will need to cull non-egg producing birds. A four and one-half pound (two-kilogram) bird eats about 60 pounds (27 kilograms) of feed a year even if she is not producing eggs. Feed consumption goes up with egg production. This means that a four and one-half pound (two-kilogram) bird laying 200 eggs a year will eat about 89 pounds (40 kilograms) of feed.

When deciding which birds to keep and which ones to cull there are several signs you can use. Birds that are not laying yet or have stopped laying will have yellow beaks and feet. As they start laying, they divert some of the yellow color to the yolk. Once they start laying, their beaks and feet will lighten in color. When they cease laying their beaks and feet will once again become more yellow. Laying hens will also have bright combs while those that are not laying will be much duller in color and puckered. Hens that are laying will also have moist, round vents while those that are not will have dry and puckered vents and the non-layer's pubic bones will be much closer together than a hen that is laying.

Older birds that are culled and used for the family dinner table will need to be cooked in a moist environment for a

a longer time period. Common recipes for older poultry meat are soups and chicken and dumplings.