

The Small Laying Flock

COLLEGE OF AGRICULTURAL, FOOD, AND ENVIRONMENTAL SCIENCES

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A well-planned and well-managed small laying flock can be a source of fresh eggs, personal pleasure, and, sometimes, profit. Owners of small flocks should not plan on producing more eggs than can be used by the family and marketed to friends and neighbors, because the backyard flock can't match the efficiency of large-scale commercial production. In most areas there is no market for small volumes of eggs that can't be sold directly to consumers.

Small-bodied commercial White Leghorn strains with a high rate of egg production should provide the lowest production cost per dozen eggs. Some strains of brown egg layers are being developed that lay nearly as well as White Leghorns. Hens of the heavier breeds usually do not lay as well or for as long a period of time, so egg production costs will be higher. Dual-purpose breeds have both egg- and meat-production qualities, but they aren't the best for either purpose. Consider raising egg-type strains for egg production and commercial broiler strains for meat.

Hens for the laying flock can be raised from baby chicks. Brooding and rearing facilities will be needed in addition to housing for the laying flock. Egg production stock can also be purchased as started pullets from 6 to 22 weeks of age. This eliminates the need for brooding facilities. See Extension publication FS-1191, *Rearing Chicks and Pullets For the Small Laying Flock*, for information on raising egg-type chicks and pullets.

Another alternative is to purchase hens from a commercial egg producer who has already kept them through one production year. By selecting good layers from his flock, it is possible to obtain reasonably priced hens that can give several months of good egg production. Don't get hens that have been in production longer than 14 months or that have already been force-molted. Changing the environment and management practices for hens can cause them to molt, so you can go through a period of relatively low egg production until the hens are back in lay. Good, healthy hens can be force-molted after they are moved. The birds will not produce eggs for 6 to 8 weeks, but will soon return to good production with improved egg quality.

Economic Considerations

Before you start, you should determine the potential cost of a small egg-production flock. Figure the cost of the pullet at the start of lay, whether raised to that age or purchased ready-to-lay. Leghorns will eat about 90 pounds and heavier breeds about 110 pounds of feed per year. Feed utilization will vary due to composition of feed and environmental temperatures, as well as waste due to overfilling of feeders and consumption by rodents and wild birds. Figure any equipment costs

depreciated over a 10-year period and housing over a 20-year period. Be realistic about these costs if housing must be constructed and equipment purchased. Estimate your costs for litter, electricity, medication, and other production costs. Remember that a flock of chickens must be fed, watered, and cared for daily. Allow any payments made for labor to care for the flock. The total cost per hen should be divided by an estimated 18 dozen eggs produced per hen per year to arrive at a projected cost per dozen eggs produced. If you keep accurate records on your flock, you can determine actual production costs.

Housing and Equipment

Many types of small buildings that meet the floor-space requirements for the desired size of the flock can be used. The flock must be protected from temperature extremes and sheltered from inclement weather conditions. For good egg production, you must be able to ventilate the house adequately to provide relief from summer heat. Housing must also be constructed and insulated well enough to provide protection from the winter. A house temperature of 55½ to 85½ F is desirable for egg production. Feed efficiency is better toward the top of this temperature range, but egg production, size, and quantity are likely to be markedly reduced beyond this point. Moisture and ammonia build-up is a common problem in poultry houses, especially below 55½ F, and some fresh air must be drawn in without causing excessive drafts on the birds. During the coldest part of winter, even in a well-insulated house with controlled ventilation, a desirable egg-production temperature cannot be maintained. Supplemental heating may be necessary as house temperatures drop below freezing to help maintain production, prevent frozen water, and avoid bird discomfort. Profits, if any, from egg production leave little to provide for the cost of heating.

Feeding and watering equipment can be purchased from local feed and farm supply outfits or from mail-order houses. Used equipment may be available locally from producers who no longer keep poultry. Feeders and nest can be home-built, if desired. A wire platform under the waterer helps to avoid wet litter. Automatic waterers save labor, even with small flocks.

The house and equipment should be thoroughly cleaned and disinfected before starting the flock (see FS-1191). Problems with diseases and parasites are more likely to occur with multiple-age flocks and when the premises are not periodically depopulated and

cleaned. Then place 4 to 6 inches of wood shavings, chopped straw, or other litter material on the floor.

Provide layers with 3 square feet of floor space. Crowding birds may cause more problems with cannibalism and will make maintenance of good litter and air conditions in the house more difficult. Allowing access to a fenced yard during favorable weather may provide more sunshine, fresh air, and exercise. Hens should be confined to reduce loss of eggs and birds to predators. Hens can be housed in laying cages, but this management system is not widely practiced with small flocks.

Provide 3 to 4 inches of feeding space for laying hens. A hanging tube-type feeder, 15 inches in diameter, can be used to feed about 30 birds. One inch of watering space should be provided or one gallon capacity per 10 birds if using fountains.

One nest should be provided for each four hens. Roosts are not essential, but are frequently used for laying hens. Allow 6 to 8 inches of roost space per laying bird. Roosts made from 3-inch lumber should be set 12 to 15 inches apart.

Provide the laying flock with 14 hours of day length. One 60-watt ceiling light will provide adequate illumination for a small laying unit (one light per 200 square feet of area). Keep the bulb clean. A time clock to control the light is essential to provide a dependable lighting schedule for good egg production. Short daylengths and periods of decreasing daylength are detrimental to egg production.

Feeding

The easiest way to supply the needs of the laying flock is to buy a complete layer mash ration from your local feed store. Farms that have adequate feed-mixing facilities for other livestock can use local grains mixed with commercial poultry concentrate. Formulate a layer ration following the directions of the concentrate supplier.

Feeding whole grain by spreading it on the litter is a common and useful practice with small flocks because it encourages hens to scratch the litter and maintain it in good condition. If excessive amounts of grain are fed, hens will become overly fat. When feeding a complete 15 or 16 percent protein mash, do not feed more than 1/2 pound of grain per 10 hens daily. If a higher protein laying mash is available, this will allow the feeding of more grain. A 20 to 22 percent protein laying mash can be fed free-choice with grain in separate feed hoppers or by spreading 1 1/4 pounds of grain per ten hens on the litter daily. When house temperatures are colder during the winter, some additional grain feeding may be desirable.

Sprinkle some insoluble grit over the mash once a week; continuous feeding of grit is not necessary. Feeding free-choice or supplemental oyster shell or other calcium source is usually of little benefit to hens on mash rations containing adequate calcium. Many producers with small flocks still like to keep grit and a supplemental calcium source available to their flock at all times.

Other Management Procedures

Molting or feather loss is a natural occurrence influenced by inheritance and environment. Hens may molt from cold weather, from lack of feed or water, during period of decreasing light, or as a result of disease. Egg production may stop for 2 to 6 weeks when a molt occurs. Random pauses of egg production will occur in most hens sometime after their first year of lay and periodically if hens are kept beyond 2 years of age. Try to reduce production pauses and molt in your flocks by providing proper lighting, adequate protection from cold weather, and feed and water at all times.

Culling to remove poor layers can be an economical practice, particularly as hens pass one year of age. Poor layers will consume feed worth more than the value of the eggs they lay. The laying hen is characterized by a bright red comb, a soft, pliable abdomen, and a two- to three-finger spread between the pubic bones. Non-laying hens show a dull, shriveled comb, a hard and often fat abdomen, and a one- to two-finger spread between the pubic bones.

The producer with a small flock is largely dependent on isolation and sanitation to minimize disease problems. Review the health and sanitation practices recommended in FS-1191. The death of a small number of hens from the flock is to be expected. If many hens show signs of abnormal health or if death loss is greater than expected, seek a source of competent help to diagnose your flock problem.

Gather eggs at least twice a day. This is important at all times to reduce egg breakage and in summer to reduce the rate of interior quality decline. Store eggs in a refrigerator. Keep adequate clean nesting materials in nests, maintain floor litter in good condition, and gather eggs frequently to minimize dirty egg problems. Eggs with dirty shells can be cleaned with a sandpaper or emery cloth buffer. Candle eggs to remove those containing blood spots or other interior quality defects before marketing. Pack only eggs that are clean and sort for uniform size to present a satisfactory product for your consumers.

Be a good neighbor. Care for your flock to minimize any cause for concern by others. Odors, dust, noise, flies, manure and dead bird disposal are potential sources of complaints if not controlled and handled properly. The success of a small poultry flock is largely dependent on good management practices.

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