



Properly Maintaining a Backyard Poultry Facility

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Many communities have specific regulations that address the raising of poultry. If you live in an area that allows poultry, it is essential to be familiar with the local regulations and to be a responsible flock owner. It is important that you properly maintain the poultry facility so that you do not attract rodents or flies, or create an odor problem. These are the three main reasons that non-poultry enthusiasts give for not wanting backyard flocks in their communities and neighborhoods.

An additional issue is noise, with the main complaint being crowing roosters. It is a myth that roosters only crow first thing in the morning. Although they will do that, roosters will crow any time of the day or night. The constant crowing can be a nuisance to neighbors, especially in the mornings when some may desire to sleep in. Short of an invasive surgery, the only way you can avoid the noise of crowing roosters is to not have roosters. Some communities have ordinances that specifically limit the keeping of roosters for that reason. Hens can also make quite a bit of noise, especially right after laying an egg. This typically occurs during the morning hours and has a much lower volume and intensity. The noise, however, is definitely less annoying than a barking dog.

House Design

Proper management starts with designing the poultry house. There are many different possible housing designs that are suitable for backyard poultry. Your choice will depend on the number and type of birds and how much you are willing to spend. There are several features that any house design should include.



Example of a poultry house with easy access to the nest boxes and with confined outdoor access for the birds.

Good Ventilation

The house should provide good ventilation while protecting the birds from the elements. To prevent condensation and to protect the birds in extreme cold or heat it is a good idea to insulate the house and use a vapor barrier. Good ventilation is also important in preventing condensation on the walls and ceilings of the poultry house. Good ventilation will keep the birds healthy and the bedding dry.

Wet bedding can result in the production of ammonia which, aside from leading to bad odors, is not good for the health of the birds or the people caring for them. The ammonia arises from the breakdown of the uric acid in the birds' droppings. The white crystals that appear on fecal material is uric acid, which is the waste product from the kidneys. Uric acid becomes ammonia in the presence of high moisture, so wet bedding is an optimal condition for this change to take place. Wet bedding can also result in mold production. The mold *Aspergillus* can be a health risk to both birds and people.

Perches

Perches are a nice addition to a poultry house because they improve the welfare of the birds and help in the management of poultry house bedding. Birds have a natural desire to perch and will use them if provided. The type, size, and height of the perches will depend on the poultry species, breed, and age.

Perches are good for several reasons. Birds like to roost, especially at night, so perches meet a behavioral need. Perches also provide refuge for any birds that are low on the social hierarchy and subject to pecking behavior from flock mates. Birds can tolerate quite low environmental temperatures, but only if dry. Perching gets the birds off the floor and keeps their feet dry. This is particularly important if the birds have gone outside in the snow. The feet need to be dry so that frost bite does not occur. In addition, with the use of perches, manure will typically collect under the roosting area. The perches should be designed so that the manure under the perches can be easily removed. Perches should not be placed above feeders or drinkers.



Example of perches in a poultry house.



Example of a perch in a small house for 3 chickens.

Enough perches should be provided to allow all birds to perch at the same time. This usually is about one linear foot (12 inches) of usable roosting area per chicken. This distance will minimize fecal fouling of other birds. Larger breeds will require more roosting area. The height of the perches should be between 16 and 40 inches. Perch should be placed at least one foot from walls, other perches, and equipment, which allows easy access on and off the perches. For larger birds you may want to allow more perch space and distances from walls and equipment. In addition, birds like to perch with their backs to the wall, so the perch needs to be far enough from the wall to allow them to do this.

Easy Access

To properly manage the birds, the caretaker needs easy access to the inside of the poultry house and the outdoor runs. The height and size of doors and ceilings need to be designed with both the bird and caretaker in mind. Easy access to the inside of the poultry house is important and will make feeding and cleaning much easier. If possible, it is best if the nest boxes can be opened from the outside so that you do not have to go inside the house to collect eggs, which should be collected at least twice a day.

Floor Space

Enough floor space should be provided, with a minimum of 1 to 2 square feet per hen, depending on the breed. Larger breeds will, of course, require more floor space than the smaller breeds. If outdoor access is provided, it is important that the area be well drained to prevent the formation of mud. Local ordinances may require that the birds not be allowed to leave the property and infringe on the neighbors. The birds should be secured at night to discourage any nocturnal predators, including the neighborhood cats.

Bedding and Manure Management

Bedding in a poultry house is used to absorb moisture, serve as a cushion, and insulate the bird from the cold ground. Enough bedding material should be placed on the floor of the poultry house to meet these functions. There should be at least a 3-inch initial base.

The best bedding material is pine shavings. Dried sawdust can be used, but damp or wet sawdust can mold. Dried hay can work as a substitute. Chopped straw can work; however, straw is not very absorbent. Straw needs to be cut into short pieces (2 inches or less) to prevent caking and creating a slick surface. The best bedding material should be able to absorb moisture and then release it as the bedding is dried. Slick paper should never be used because of the potential to create leg problems.

With the use of perches, you can remove the build-up of manure from the area under the perches without removing bedding material from the entire house. The frequency of manure removal will depend on the size of the perching area together with the number of birds. Once a month is typical for most operations. If the manure is kept dry, it should not smell of ammonia. If you are getting ammonia smell you may have a moisture problem. Moisture can be due to leaky drinkers, condensation on the walls and ceiling, or problems with the birds due to nutrition or disease. If the droppings are watery there is a problem with the birds. While disease can be a cause of this, too much salt in the diet or drinking water can have the same effect.

The drinker system is another source of moisture in the poultry house. Select a drinker that minimizes spillage yet provides adequate water to the birds. Making sure the height of the drinkers is adjusted to minimize spillage is essential. Any wet bedding material should be removed immediately and replaced with fresh bedding. It is recommended that the bedding material be top dressed as needed. Removing spills and top dressing the litter will extend the time intervals between total clean-outs of the bedding. Over time the bottom layer of litter will start to compost and provide warmth for the winter. The whole house should be cleaned out at the end of winter and all the bedding material replaced. The used bedding material can then be composted and used as fertilizer for your garden.

Due to the high nutrient content, fresh manure should not be added directly to your garden.

Feed Selection

It is important to choose the correct feed for the type and age of birds in the flock. Growing birds need starter or grower feeds depending on the age. Once the hens are laying, a layer feed should be provided. The birds should always have access to feed. Scratch grains or cracked corn are not recommended since they dilute the nutrient content in the feed. If they are given as a treat, the birds should only receive them at night and then only be given the amount they can consume in 15 minutes.

If you want to feed the birds table scraps you should only give them the quantity that the birds can finish in an hour. Any remaining table scraps need to be cleaned up and disposed of properly. This will prevent the materials from becoming rotten and creating a risk of botulism. This also applies to vegetables fed to the birds.

Feed Storage

Feed should be stored properly to prevent pests and contamination. It is important that feed be stored in a metal container with a tight lid. Improperly stored feed will attract rodents such as mice and rats. Rodents not only consume feed they can also contaminate the feed and spread disease. An active rodent poison bait program should be in place where feed is stored. Proper storage will also prevent the feed from getting wet and becoming moldy. Feed should not be purchased in quantities greater than what can be used in 2 to 3 months. After 2 to 3 months, depending on the temperature, the vitamins in the feed may oxidize and no longer be available to the birds. Vitamin deficiencies have occurred with birds given old feed.

Dead Bird Disposal

Death is part of the life cycle. Some communities have a dead animal ordinance or system in place. Check with your county if you have any question on disposal of dead animals. In general, if a bird dies, they should be placed in a plastic bag, double-bagged, and placed it in the trash immediately. If multiple deaths occur, consult with a veterinarian as soon as possible.

Proper Sanitation

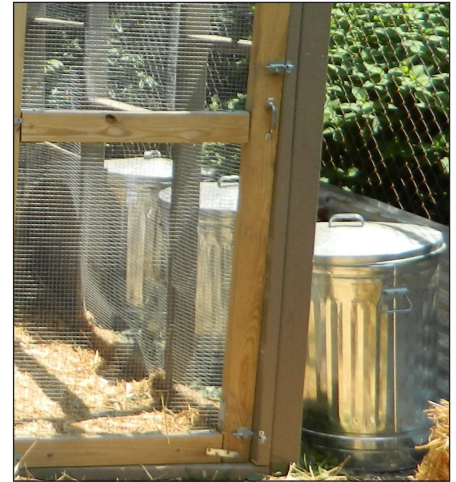
Every year outbreaks of human salmonellosis occur that can be traced to backyard poultry flocks. Salmonella species are found in the digestive tract of all animals, including humans. Certain strains of salmonella, however, can make people sick. Birds can carry these strains without showing any clinical signs. It is important, therefore, to assume that all the birds in your flock have salmonella that can make you sick and handle them accordingly.

Do not allow young children to handle birds without supervision. Make sure they are not kissing the birds or snuggling them close to their faces. Make sure that the children do not rub their eyes or touch their nose or their mouth while handling chickens.

Personal hygiene is important for preventing the spread of disease in birds and humans. Always wash your hands after handling birds, their eggs, or their equipment (drinkers, feeders, etc.). It is a good idea to have a hand sanitizer dispenser near the door of the poultry house that you can use as you exit to hold you over until you are able to clean your hands with soap and water.

If the flock is allowed to roam freely in the backyard, assume that the area is contaminated. Do not bring live birds into your house. Do not eat or drink in the area where the birds live and roam. Do not wash equipment used by your birds, such as feeders and drinkers, in the kitchen sink. This area is typically where food is prepared, and cross contamination is possible.

Concerns about salmonella do not stop with the birds. It is important to handle the eggs carefully as well. Start at the hen house—keep your nests filled with



Metal cans for the storage of feed.



Example of a nest box with bedding material.

clean, absorbent bedding material (pine shavings are the best; straw is the worst). Collect the eggs at least once a day, though morning and late afternoon or more often would be better. Try to prevent floor eggs by providing light in dark corners and blocking access to the corners.

Wash the eggs before putting them away. It is important to wash eggs only in running water—do not let them stand in water. Make sure the eggs are room temperature before washing. The running water should be 20°F warmer than the egg. If you are dipping an egg in an egg-specific detergent, change the wash water as necessary. Let the eggs dry before putting them away. If placing in an egg carton or flat, it is best to place them small end down. Store eggs in the refrigerator on an inside shelf. They should not be stored in a rack on the door. If cleaning eggs in the kitchen, thoroughly clean the surfaces that came in contact with the eggs to prevent cross contamination.

Disease Prevention

Biosecurity of any poultry flock is important, including backyard flocks. A biosecurity plan is the management procedures put in place to keep disease out of your flock. It starts by limiting access to your birds. Anyone who has their own poultry flock (or pet birds) should not be allowed near your flock without special precautions. If you do not have a pair of boots they can borrow, it is recommended that you have disposable booties they can place over their footwear to prevent introducing disease to your flock. They should not wear any clothing that has been in contact with other birds.

It is recommended that you have dedicated clothes and footwear when caring for the birds. If not, it is important that your footwear be cleaned before entering the poultry house. Do not wear any footwear or clothing that you had on if you visited another poultry flock or went to the feed store where other poultry flock owners may have been.

Summary

Raising poultry can be a rewarding experience; however, certain things can be done to ensure that it is enjoyable for you and your neighbors. Keeping the bedding dry prevents ammonia build up and

bad odors. Proper disposal of dead birds and bedding will help eliminate odors and contamination. Personal hygiene as well as cleaning surfaces and equipment will prevent cross contamination. Proper storage of feed in metal cans with lids and an active poison bait program will reduce the rodent population, but ensure your cat does not eat a poisoned rodent. A strong biosecurity program will help keep your birds healthy.

These few steps can improve the management of your flock and ensure years of enjoyment. Enjoy a rewarding and educational hobby!

Photos by Dr. Jacquie Jacob.