ASC-241

University of Kentucky
College of Agriculture,
Food and Environment
Cooperative Extension Service

Urban Poultry

Jacquie Jacob and Tony Pescatore, Animal and Food Sciences

Introduction

The terms *urban poultry* and *backyard poultry* both refer to flocks kept on residential lots. Keeping chickens in urban areas is becoming increasingly popular throughout the country. The main reasons for keeping chickens are as pets and for egg production—pets with benefits. Small numbers of hens kept in the backyard can provide an urban family with entertainment, eggs, and fertilizer. For those with children, backyard poultry flocks can also teach them responsibility and can be used for 4-H poultry projects.

Not everyone is suited for keeping a backyard flock, however. Refer to the publication *So You Want to Produce Your Own Eggs* (ASC-217) for a discussion of what you should consider before starting a backyard poultry flock, including checking with your local ordinances and/or home owners association.

Figure 1. Fixed chicken house. Photo by Jacquie Jacob

Breed

Many different breeds of chickens are available for you to select. It is important to know what features are most important to you before you can select a breed that best meets your requirements. Think about productivity, size, and the temperament of the breed. See the publication *Selecting the Right Chicken Breed* (ASC-190) for a discussion on the breeds of chickens to consider for a backyard poultry flock.

Managing a Backyard Flock

Your flock must be properly managed to prevent them from becoming a nuisance to neighbors. The first consideration is the housing. There is no one perfect housing design for backyard flocks. It depends on the breed, number of chickens, and location, as well as resources available. It is strongly recommended that you do NOT keep chickens in your residence. Extreme close interaction between poultry and humans can lead to human illness. It is important to design the poultry coop so that the caretaker can easily enter to clean the pen, change water, feed, and pick up eggs.

The coop should look nice, so as not to adversely affect property values in the neighborhood. In addition, it is important that the coop protect the flock from the weather as well as both aerial and land predators. If the coop is not secure, it may attract predators like racoons and skunks to the neighborhood. Also, neighbors' cats and dogs can be a problem. If you are re-purposing an old shed or building material, make sure that there is no old paint that could contain lead and peel or flake off. The chickens will eat the paint flecks and the lead can be passed into the eggs.

The housing can be fixed (Figure 1) or temporary (Figure 2) and moved around the yard. If you use the latter, it is important to remember that the ground the coop was on will be contaminated with fecal material and should not be used for activities by people because of the risk of salmonella contamination.

Figure 2. Portable chicken house. Photo by Jacquie Jacob

Housing should meet the basic requirements of chickens. These include appropriate space; proper ventilation; perches at an appropriate height that are adequately spaced; good quality litter, feed, and water; weekly cleaning of the house; and nest boxes for laying hens.

The coop should have at least 2 square feet per chicken, and about 2.5 square feet minimal space for larger breeds. There should also be at least two square feet per chicken in a run area. Chicken coops may not need insulation if there are no drafts. Chickens can tolerate quite low temperatures if they are dry and out of the wind or draft. Access to water is important in cold weather. If extremely low temperatures are common, insulation or supplemental heat may be needed. Be careful with the use of heat lamps because they can be a fire hazard. Always hang

Figure 3. Inside a small chicken coop showing the roosts. The top roost is too close to the wall to be used by the hens. Photo by Jacquie Jacob

by a safety chain and not the cord. Ventilation is an important aspect of the housing. Improper ventilation can result in moisture build-up, which can cause ammonia production from the fecal material. It is important to keep the house clean and dry to prevent odors and flies. A damp environment will also make it harder for the chickens to tolerate low temperatures.

Your hens should be provided with perches to roost on. Never place roosts above food or water containers. The perches should be at least 13 inches but no more than 18 inches off the floor and have 18 inches between them like rungs of a ladder (see Figure 3). Make sure that the perches are not close to the wall or the chickens can injure themselves. They should be at least 13 inches from the walls or other objects or the chickens may not use them. The chickens will spend the night on the roosts, allowing manure to collect under them. This manure should be cleaned out weekly and composted. The remainder of the house should have a good bedding material such as peat moss or pine shavings. Straw is not a good bedding material unless it is chopped into one-inch pieces. Bedding material is important for controlling the moisture content and ammonia levels in the coop. If the bedding gets wet, it should be removed immediately and replaced with fresh bedding. Otherwise you can top dress as needed. Never use slick paper as a bedding material.

Poultry waste management starts in the poultry house. It is important that the house have adequate ventilation so that the moisture in the manure can evaporate. This is important to reduce odors but will also decrease the overall weight of the litter, making it easier to clean out. How often you clean the poultry house depends on the number of birds and the size of the outside area. If you have fewer chickens or a larger coop area there will be less waste build-up and the coop will not need to be cleaned as frequently. If you have a heavily populated area, the coop should be cleaned every two weeks, otherwise you can wait three to four weeks between cleanings. After the coop is cleaned, 2 to 3 inches of bedding should be added to the coop floor. Chickens relieve themselves before getting off the roost in the morning, so it is a good idea to clean under the roosts every week. The other advantage of cleaning up your chicken's droppings is to examine the droppings for consistency, parasites, or blood.

Raw manure should never be used directly on vegetable and fruit crops. It is not recommended that raw poultry litter be applied directly to the flower garden. Poultry manure can be high in salt and applying it directly to the garden in the spring before you plant may burn and damage seedlings. Raw poultry manure is also high in nitrogen in the form of ammonia nitrogen. Even if the raw manure is tilled into the soil, the ammonia nitrogen could be trapped and converted to organic nitrogen. The high levels of nitrogen could increase the potential damage from the salt in the litter. Fall applications help to prevent this. If spring is when you want to apply the litter, use composted litter only. Composting the litter will also help to kill any bacteria that may be contaminating the poultry waste. If the manure is composted for at least 120 days, there will be fewer health safety concerns. The temperature of the manure pile should be monitored to ensure that it is maintained within 110 to 150°F. This is the temperature at which most pathogens, weed seeds, and fly larvae are killed. Fully composted poultry manure should have no offensive odor and no recognized particles of bedding.

Composted manure can be used to produce a valuable, odor-free fertilizer for gardens. There are several composters that can be used (see Figure 4 for a couple of examples). It is important to maintain a proper carbon/nitrogen ratio. How often the house is cleaned will affect the ratios of manure to bedding and thus

Figure 4. Different kinds of backyard composters. Photos from Shutterstock.com

Figure 5. Barred Plymouth Rock hen in a nest box with wood shavings as bedding material. Photo by Jacquie Jacob

Figure 6. Chicken eating from a tube feeder adjusted to the right height. Photo from Shutterstock.com

the composting process. For proper composting, the ratio of manure to bedding can range from 20:80 to 40:60. It is best to schedule the clean out of the house to achieve this range. This may affect the cleaning schedule discussed above. The ratio of bedding to poultry manure will also affect the nutrient content of the final composted product.

Nest boxes should be provided for egg-producing flocks. The nest boxes are typically 12 inches wide x 12 inches high x 12 inches deep (see Figure 5). Hens prefer a secluded place to lay their eggs, so the inside of the nest boxes should be relatively dark. Bedding material should also be placed on the bottom of the nest, which will help reduce the number of broken eggs and help keep the eggs clean. If the nest boxes are off the floor, there should be a perch in front of the nest box to make it easier for the hens to get in and out of the nest without breaking eggs. You need at least one nest box for every five hens, with a minimum of two nest boxes per flock.

Your flock needs to be provided a feeder and waterer. You can use trough or tube feeders. Tube feeders allow for all-day access to feed with reduced need for topping off the feed. If using trough feeders, make sure they are not too full, or the feed will be spilled. The same can be the case with most feeders. Aside from costing you money, this will also attract rodents. If you have a rodent problem, do not leave feed out during the evening. Store all feed bags in a metal container with a tight lid to help deter rodents. Make sure that the height of the feeders is adjusted to the age and size of the chickens. The lip of the feeder should be at the height of the back of the chicken (see Figure 6).

It is important that the chickens be provided with fresh, clean water at all times. Choose waterers that are easy to remove and disinfect. Chickens usually drink between 1.5 - 2.5 cups of water each day. There are several different waterers available on the market. You can use mechanical waterers, invertible gallon waterers (see Figure 7) or nipple drinkers (see Figure 8). Nipple drinkers are easier to maintain and require less frequent clean outs. They also typically have less water spillage. Whichever type of waterer you chose, make sure that you adjust the height as the chickens get older. Open waterers should be at the height of the back of the chicken. Nipple drinkers should be higher than the chickens so that they must reach up to activate them. It is important that the chickens have water at all times. This is important even in the winter. If the waterers have a tendency to freeze, they will need to be changed frequently or you will need to purchase a heated waterer for colder times of the year.

Figure 7. Hen and chicks drinking from a gallon waterer. Photo from Shutterstock.com

Figure 8. Chicken drinking from a nipple drinker with a drop catch for spilled water attached as well. Photo from Shutterstock.com

Feeds and Feeding

It is important that your flock be provided with the proper nutrition. This involves feeding a complete feed that is not diluted with scratch grains or cracked corn. The feed is formulated to meet their nutrient requirements with the amount of feed they would consume daily. A chicken will eat about ¼ pound of feed per hen per day. The only time that some supplemental scratch grains and cracked corn are recommended is in the winter. These supplements will provide hens with the extra energy needed to keep warm. Feed can be purchased as a mash, pellet, or crumbles. Any of these forms are satisfactory for your laying hen flock. Pellets are not recommended for young poultry as they prefer mash or crumbles.

Make sure the feed never gets wet because this will encourage mold growth. Many molds will produce mycotoxins which will negatively impact the animals. Even if you remove the mold, the mycotoxins will remain in the feed. Some people like to give their chickens table scraps. It can be good to give leftover fruits and vegetables. While most table scraps are safe for chickens, there are certain foods that you should avoid giving them. Do not feed them raw potatoes, rotting food, peanuts, dried beans, chocolate, junk food, eggplant, peppers, tomatoes, avocados, or raw meat. Make sure that you remove any leftover scraps before they rot. Rotting food attracts bugs, pests, and bacteria. Rotten food can also be a source of *Clostridium botulinum,* which can cause botulism and death in your flock.

If you are having weak eggshells, consider adding a dish of oyster shell on a free choice basis. Chickens have a calcium appetite and the hens that need it will eat the oyster shell. If they don't need the calcium, they won't eat it. Alternatively, you can boil the eggshells, remove the shell membrane, crush the shells and provide those to your flock. This is necessary to kill any salmonella that may be present in the egg. This also helps to reduce the likelihood that hens will become egg eaters.

If the flock is on pasture it is best to provide grit. Grit is basically small rocks that are beneficial for hens by helping them digest forage. They do not get a lot of nutrition from the pasture, but the grit will help them get some. Chickens can only get about 5 to 10 percent of their dietary needs from foraging, so it is important that the chickens always have access to a complete diet.

Light Management

Chickens are sensitive to the amount of light per day. They come into production with increasing day lengths and go out of production with decreasing day lengths. This is why many flocks go out of production in the winter. You can get your hens to lay year-round by providing supplemental light so that the total number of hours of light per day remains at 14 to 16 hours. Do not provide 24-hour lighting. A simple light bulb will work, and you can set your lighting up on a simple timer. You do not want the light to be too bright or issues with feather pecking and cannibalism can arise. Chickens require at least eight hours of dark, so be careful about yard lights or security lights that you might leave on all night. See the publication *Raising Replacement Pullets for Small-Scale Egg-Production Enterprises* (ASC-232) for a more complete discussion of proper lighting for layers.

Safe Handling of Eggs

The more frequently you can collect the eggs the better, but collect them at least a minimum of once a day. Eggs should be washed immediately after collection. This is done by running warm water over the eggs. Do not let the eggs sit in water. The wash water should be about 20°F higher than the temperature of the eggs. Let the eggs dry before putting them in a carton, or mold may develop. Then place the eggs, in the carton, in the refrigerator. The eggs should be on an inside shelf and not on the door. The opening and closing of the door can adversely affect the quality of the eggs. Eggs stored below 40°F can be kept for about 45 days without losing their functional qualities. Functional qualities of eggs are why we use them in different foods. There are no differences in the nutritional value and food safety of the stored eggs. The older eggs will just spread out more in a frying pan and do not make as nice deviled eggs because of the shifting of the yolk to the side of the albumen. In addition, there are no differences in the safety and nutrient content of eggs of different colors.

Issues of Concern

There has been a lot of misconception over the impact of urban chicken flocks on the neighborhood. Concerns typically relate to noise, odor, flies, rodents, and disease. These issues are not a major concern in properly maintained flocks. Any problems typically associated with chickens is minimized by proper management.

Noise: Overall, hens are relatively quiet animals foraging in their pen during the day. Hens will cluck and cackle from time to time, especially when laying eggs, but this is typically only for a few minutes each day. It is the roosters that make most of the annoying noises during the day, but roosters are not needed for hens to lay eggs. Therefore, many communities limit roosters in backyard flocks. In an urban setting, barking dogs are often more of a nuisance than cackling hens.

Odor: As with well-managed dogs and cats, well managed chickens do not pose an odor problem. With regular cleaning, odor from urban chickens is not a problem. The manure produced can be added to compost, making an excellent fertilizer. Most people with urban poultry flocks are also using the fertilizer produced for a sustainable urban food garden.

Flies: Chickens that are raised on the ground will scratch through the bedding and will find any fly larvae before they turn into flies. Flies will lay eggs in high moisture manure or other decaying matter. With regular cleaning, the chickens themselves can keep the flies down. In some integrated farms, poultry are often raised on pasture behind cattle or goat herds as a means of fly control. It should be noted that a poorly managed backyard with dogs can be more of a fly problem than a well-managed flock of backyard chickens.

Rodents: Mice and rats are opportunistic animals looking for food and shelter. Animal production facilities can be attractive to rodents because of the presence of food. If feed is properly stored and fed with minimal spillage, the rodent populations can be controlled. As a bonus, the feed bill of the flock owner will be less. An active bait program or live traps can also be used to control rodents.

Diseases: Chickens are birds and not mammals. Being birds, their diseases rarely cross into mammalian populations. As such, the potential for spreading disease from chickens to people and their pets is low. However, chickens, like any animal, can be a source of salmonella, which can make people sick. Make sure that you wash your hands after handling chickens or working with anything that has come into contact with chicken fecal material. It is particularly important to watch small children to make sure they don't put dirty hands in their mouth. There have been incidences of human salmonellosis from mishandling of backyard chickens. Proper handling of poultry and simple hand washing are very effective in reducing these concerns. Having poultry in your house or apartment is not recommended.

State Regulations

Following are some state regulations related to poultry keeping that need to be considered.

Bird health: The control of poultry disease is under the authority of the Board of Animal Health and the State Veterinarian's Office. This is covered under KRS 257.010 (15), which defines poultry as any chicken, duck, turkey, or other domestic fowl being raised or kept on any premises in the Commonwealth. So, backyard chickens would be considered poultry. Any state regulations that deal with poultry will affect backyard flocks.

Animal welfare: According to KRS 257.100, any policeman or animal control officer is authorized to destroy, or cause to be destroyed, any animal found abandoned and suffering and not properly cared for. The same holds true with any animals appearing to be injured, diseased, or suffering past the ability to recover for any useful purpose. Animal health officials can use depopulation to control avian influenza or exotic Newcastle diseases. KRS 257.001 allows for this response to positive tests and allows for the owner to be compensated for the loss.

KRS 436.600 prohibits the sale, exchange, display, or possessing of live baby chicks, ducklings, or other fowl which have been dyed or colored. This prohibition was enacted years ago at Easter when chicks were given away. This was a serious animal welfare concern, so the activity was banned. The same regulation also requires that, for birds under two months of age, the sale, exchange, or giving away of baby chicks, ducklings, or other fowl must involve a minimum of six birds. So, if you purchase day-old chicks for your backyard flock, you must purchase at least six because poultry are flock animals. If you are purchasing older chickens (more than two months of age), you are not limited in the minimum number of chickens you can purchase. It is often difficult to purchase small numbers of pullets.

Dead animal disposal: It is a fact of life that chickens in your flock will eventually die. KRS 257.160 addresses the issue of dead animal disposal. While the regulations were developed for commercial animal agriculture, they are still applicable to backyard flocks. Means of disposal most appropriate for backyard poultry flocks are landfill and composting. For the small flocks, simply double-bag the dead bird and place it for garbage pickup with the rest of your trash. This may be the best choice for backyard flocks. For composting, refer to *On-farm Composting of Animal Mortalities* (ID-166) for the basics of composting dead birds.

Obtaining birds: KRS 257.410 addresses the issue of importing into the state hatching eggs or poultry less than five months of age. If you wish to do so, the hatching eggs and birds must have originated from a flock that meets the pullorum requirements of the National Poultry Improvement Plan (NPIP). According to KRS 257.390, anyone planning to import poultry over five months of age into the state must have the birds tested for pullorum disease within thirty days and the birds must have originated from an NPIP flock that is participating in the pullorum control or eradication program.

KRS 224.30-175 allows all local governments to develop, adopt, and maintain a comprehensive program related to noise. This regulation could affect whether you are able to keep roosters or not.

302 KAR 20:250 relates to the importation of live poultry and eggs into the state of Kentucky. Section two of this regulation states that it is against the law to import live domestic poultry or poultry products originating from any flock affected with low pathogenic avian influenza for any purpose. The other sections deal with importation of unfed baby chicks or hatching eggs that come from states affected by avian influenza. The source flocks must test negative for low pathogenic avian influenza and have the correct paperwork. If the chicks or hatching eggs originate from a hatchery that received hatching eggs from an avian influenza infected flock, the hatchery must go through several steps before the hatching chicks can be imported into the state. If the chicks or hatching eggs originate from a collection point that received infected chicks or eggs from an infected flock, they too must go through specific steps before any of their chicks or hatching eggs can be imported into Kentucky. The chicks and hatching eggs must be transported in new, disposable containers or reusable containers that have been cleaned and disinfected. The same regulation deals with the conditions under which the importation of live poultry and poultry products from states affected with low pathogenic avian influenza can take place.

City Ordinances

Some Kentucky cities specifically prohibit keeping urban flocks, while others allow it with specific regulations. A good place to start your search is the American Legal Publishing Corporation (http://www.amlegal.com/codes/ky/), where you can search for city ordinances. It does not include all cities in Kentucky but may save you a trip to city hall. The following are some current examples of different ordinances related to poultry from different cities around the Commonwealth. Searches should include the keywords poultry, chickens, and fowl.

Louisville requires that backyard flock owners have lots of at least 0.5 acre. Backyard flocks can be up to five non-crowing poultry and no more than one crowing poultry. All birds must be kept in a fence or structure of sufficient height and construction to prevent the birds from leaving the owner's property. They specifically do not allow poultry on school grounds, metro parks, or other public property.

Alexandria allows backyard chickens, but not pigeons, turkeys, guineas, ducks, or geese. Any person wanting to keep chickens, however, must make an application in writing to the zoning administrator for a one-time license. The chicken coop must be fifty feet away from any dwelling house, except that of the poultry owner. One family is only allowed ten chickens if they have less than two acres. As with Louisville, backyard chicken

owners are not allowed to let their chickens run freely on the streets of the city or to trespass upon the land of another.

Paintsville includes poultry in their definition of livestock. Keeping of backyard chickens is allowed, but you cannot let the chickens run loose within the city limits. No other restrictions are listed.

Berea allows up to six female chickens in backyard flocks. All the chickens need to be confined in a coop, which must be at least 50 feet from a residence other than the owner's unless the owner has written consent from all adjacent property owners. No male chickens are allowed. No processing or slaughtering of chickens is allowed on the property. A permit is required and currently costs $35.

Murray currently has no regulations related to backyard poultry flocks.

Lexington only has regulations stating that no person owning any fowl can allow their birds to leave their property. So presumably, backyard poultry are allowed.

Home Owners Association Restrictions

Regardless of the state regulations and city ordinances, check with your home owners association (HOA) to see if you can keep backyard chickens. Many HOAs prohibit the keeping of chickens within the community.

Issues to Consider When Formulating Urban Poultry Regulations

When it comes to formulating by-laws, the following issues need to be addressed:

Noise: Crowing roosters are the problem and many communities have banned roosters in their ordinances.

Number of chickens: Many communities have addressed this by putting a low maximum number of chickens in a backyard, typically less than ten. Remember that young poultry can only be purchased in groups of six.

Location of the pen or structure: This is especially important with regard to property lines and neighboring residences. Many ordinances require the structure be 20 feet from the neighbors' residences.

Confinement: Poultry need to be confined to the property and not allowed to roam off the property.

Dead birds: The issue of dead bird disposal should be addressed. Can any dead birds be double-bagged and deposited in the trash or are they allowed to bury dead animals on the property?

Manure: Should be double-bagged and deposited in the trash for disposal or composted for fertilizer.

Issued 12-2018