

Poultry Beginnings: Raise Your Own Backyard Chickens



For years, many folks have found maintaining a small flock of backyard chickens a very rewarding experience and an excellent venture for the small or part-time farmer. But with the COVID-19 pandemic, numerous additional people, both urban and rural, ventured into the backyard chicken world—so much so that mail-order hatcheries could not keep up with orders during the spring of 2020 (Tabler et al., 2020).

While **raising your own meat and eggs may seem like a good idea, understand that there are stones in the road.** It is probably cheaper (and less work) to buy it from the store than to produce it yourself at home. But if you are determined to start a backyard flock, it is important that you start planning early, do some homework, and make informed decisions. And always remember that Extension is here to help you!

Where to Begin

Don't call up the mail-order hatchery and order chicks tomorrow. Start planning several months before the first chicken shows up on your property. First, **check city/county ordinances** to make sure you can have backyard chickens where you live. You don't want to spend money on fencing, housing, and chickens just to learn later that you can't have chickens at your location. If you can have chickens, **check specifically about roosters.** Some locations that allow hens do not allow roosters. Roosters crow and make lots of noise, which may not please the city council or county board of supervisors. If it's legal to have chickens, **visit with your neighbors** beforehand so they aren't blindsided when chickens suddenly appear in your backyard.

Decide how many chickens you will have and then consider housing and pen space. You can't have chickens without a place to put them. Have a specific number in mind but consider building your house and pen for more than that number. You may want to expand in the future—always be thinking ahead. It's best to pen your flock rather than letting the chickens run free. Penning them will keep them at home, lessen disease threats, and protect them from predators. Many critters enjoy chicken dinners

just as much as we do, including raccoons, opossums, skunks, snakes, hawks, owls, dogs, and cats. Many of these predatory animals are just as common within city limits as they are in the countryside.

Understand that **chickens come with expenses.** Housing, purchasing the birds themselves, and feed will cost money. Also, if you plan to start with baby chicks, it will be roughly **6 months before hens are old enough to lay eggs**, and roosters will never lay eggs. You will have to feed and care for them during that time, so it will be a while before you see a return on your investment. **Feed will be your greatest expense.** Large poultry companies manufacture feed in bulk to reduce cost. Feed costs more when you buy it by the sack. However, it is still better (and easier) to purchase a balanced ration at the feed store or co-op than to try to mix a balanced ration at home yourself. The feed tag on a sack of feed is your guarantee that you are buying a complete and balanced ration for your chickens.

Even though chickens come with expenses, they are usually less than for other livestock. Chickens benefit from the fact that they are

- small (compared to horses, cattle, or hogs),
- relatively inexpensive,
- easy to acquire (mail order hatcheries are all over the country), and
- don't require a lot of land.

However, **chickens are living creatures and will be dependent on you** to feed, care for, and protect them, 24 hours a day, 7 days a week, 365 days a year. Consider the commitment. While COVID-19 may have kept you home during part of 2020, that won't last forever. Who will take care of the chickens long-term? What about vacations or business trips? What happens if the primary chicken care provider is sick? Who is the backup care provider? Chickens do not care if it's the weekend, your anniversary, Thanksgiving, or Christmas, or if there is a soccer game, football game, cheerleading practice, etc. Chickens must be cared for every day. They aren't like cattle that you can put

in the pasture and have them take care of themselves for long periods.

You must plan for these situations and have the answers worked out long before you get chickens. What happens if a chicken gets sick? Do you know basic animal husbandry for poultry? Is there someone nearby that can teach you basic animal husbandry—a friend, neighbor, or county Extension agent, perhaps? Where will you get your feed? What will you do with the manure? What will you do with birds that may die? You must answer these questions before chickens arrive.

Selecting a Breed: Choose Wisely

Find what best suits your wishes, goals, and desires. There are more than 400 varieties of chickens to choose from. When you order baby chicks, you have to know what kind to choose. Chickens come in two sizes:

1. Standard or large fowl (these are normal-sized birds)
2. Bantam (a small chicken usually about one-fourth the regular size)

Bantams are miniature copies of large breeds that are used often as ornamental birds. Some do have good egg production, but the eggs are small. **Choose where your interests lie and have a goal in mind** before you make your order (Tabler et al., 2017a):

- breed preservation – preventing endangered breeds from going extinct (this is a real concern for some breeds)

- dual-purpose – breeds fairly good at both meat and egg production
- meat production only
- egg production only
- developing a new breed – when you just can't seem to find exactly what you want

Will you market meat or eggs to the public? If so, the state where you live will have rules you must abide by. In Mississippi, you will need to contact the Mississippi Board of Animal Health (601-359-1170) for the requirements (disease testing, permits, paperwork, etc.). Selling to the public requires **knowing what your customers want**. When producing meat, it's important to know if customers prefer yellow or white skin or if lots of dark meat or large amounts of breast meat appeal to them. For egg production, consider egg size and color (white, brown, dark brown, green, or blue).

Also, **consider the climate where you live**. Mediterranean breeds generally do better in hot, humid climates. American breeds tend to do better in cooler climates. Usually, birds with large combs perform better in hot areas, and birds with smaller combs are better suited for colder regions. Large combs may suffer frost bite in colder weather, so use a smaller comb variety in cold areas. Some breeds have varieties with different type combs. Tables 1, 2, and 3 list common dual-purpose, egg-laying, and meat-type breeds.

Table 1. Common dual-purpose chicken breeds.

Breed	Egg production	Egg size	Egg color	Disposition	Foraging ability
Plymouth Rock	fair	large	brown	calm	fair
Rhode Island Red	good	large	brown	calm	fair
Dominique	fair	medium	brown	calm	good
Delaware	fair	large	brown	calm	good
Wyandotte	fair	large	brown	calm	fair
Brahma	fair	large	brown	calm	good
Orpington	fair	large	brown	calm	poor-fair

Table 2. Common egg-laying chicken breeds.

Breed	Egg production	Egg size	Egg color	Disposition	Foraging ability	Broody
Leghorn	excellent	large	white	very flighty	good	no
Minorca	excellent	x-large	white	flighty	good	no
Australorp	excellent	large	brown	calm	poor	yes
Ancona	good	large	white	flighty	good	no
Ameraucana	good	large	blue-green	calm	good	yes
Hamburg	good	small	white	very flighty	good	no
Fayoumi	good	small	tinted white	very flighty	excellent	somewhat
Maran	good	large	dark brown	flighty	poor	yes
Sex-link	excellent	large	brown	calm	poor	no

Table 3. Common meat-type chicken breeds.

Breed	Growth rate	Skin color	Disposition	Foraging ability
Cornish	slow-medium	yellow	calm	poor
Jersey Giant	medium	yellow	calm	poor
New Hampshire	fast	yellow	calm	poor
Freedom Ranger	fast	yellow	calm	fair
Modern broiler	very fast	yellow	calm	poor

Housing and Confinement

Chickens must be protected from extreme weather, predators, injury, and theft. Carefully select the site on your property to house your flock. Keeping poultry confined with fencing and a covered run is the best protection from predators (Tabler et al., 2013). It's important to bury the fencing wire and turn it outward for 10–12 inches under the surface to keep predators from digging under and reaching the birds. Fencing wire must be small enough to keep predators from crawling in and chicks from crawling out.

How close will the housing and pen be to your house? The closer the better if predators attack, so that you can take quick action. The housing and pen should be on high ground that drains well to keep chickens out of the mud during wet weather. Chickens should have a **dry, draft-free house that is easy to clean**. Decide ahead of time if electricity and running water are needed.

There are **two main styles of housing: moveable and fixed**. Moveable housing can be moved on a regular basis so that birds have access to fresh pasture. Fixed housing can't be moved but may still allow birds to have outside access. Some backyard poultry keepers may have multiple fixed pasture areas so they can rotate pastures. Minimum space requirements for various types of poultry are listed in Table 4.

Table 4. Minimum space requirements for various bird types (Clauer, 2009).

Bird type	Sq ft per bird (inside)	Sq ft per bird (outside)
Bantam chicken	1	4
Laying hen	1.5	8
Large chicken	2	10
Quail	1	4
Pheasant	5	25
Duck	3	15
Goose	6	18

Getting Chicks

When housing is ready and the time finally arrives, baby chicks are easy to find. You can find multiple mail-order hatcheries online that will ship chicks by way of the U.S. Postal Service. Many people get their chicks from these mail-order hatcheries each year. Some hatcheries may have a minimum number of chicks to purchase; others may not. It's possible to mix and match orders, but you must know what breeds you want and how many chicks when you make the order. Some hatcheries may sex chicks (for a fee) if you want only males or only females. Others may only ship straight-run chicks (some males and some females); in that case, you get whatever happened to hatch out that day.

Shipping chicks through the mail is very effective and allows hatcheries to offer a wide variety of breeds. If you decide to get your chicks this way, make sure the **hatchery participates in the National Poultry Improvement Plan (NPIP)**. This is your guarantee that the chicks are healthy and disease-free. Chicks can be shipped by mail because the egg yolk is a source of energy for up to 3 days for the newly hatched chick.

Once you have your chicks, be forewarned that raising chickens is not as easy as you may have been led to believe—it takes work, time, and commitment. Managing a small flock of chickens can be divided into three different stages with different management intensities:

1. brooding,
2. growing, and
3. egg production/breeding.

Brooding is generally considered the time from placement/delivery to 14 days. **Brooding requires the most intensive management on your part.** It is the time of the chick's most rapid development. Chick survival depends on how quickly it adjusts to its new surroundings. You must help it adjust by providing housing, protection, proper temperature/ventilation, feed, and water. How well a chick adjusts depends on how well you manage **FLAWS**. FLAWS stands for **F**eed, **L**ights, **A**ir, **W**ater, and **S**anitation. Brooding depends on six critical management basics:

1. Pre-placement management
2. Feed management
3. Light management
4. Air/ventilation management
5. Water management
6. Temperature management

Feed and Water

Even though some backyard poultry keepers mix their own diets, in the beginning, it is easiest to purchase feed from a local feed/farm supply store or co-op. Again, the feed tag means you don't have to worry if you are feeding your chickens properly because everything they need is guaranteed to be in that sack. Common feeds are **starter** (20–24 percent protein), **grower** (18–20 percent protein), and **layer** (about 16 percent protein with extra calcium to maintain eggshell hardness). Do not feed layer feed until hens start to lay eggs. It has too much calcium for non-egg-laying birds and may damage their kidneys.

Use a clean, safe water supply for your birds; water that you would drink yourself. Clean waterers daily.

Place feed in a shallow feed tray that chicks can get in and out of easily, and place chicks on top of the feed; this will encourage them to eat. Feed trays can be homemade from any low-sided object such as egg flats, pie pans, the cut-out bottom portion of a milk jug, or even newspaper. Place feed trays **close to the heat source** to help chicks find feed yet still stay warm. Remove feed trays after the first few days to prevent waste, and switch to a more permanent feeder.

Start chicks on a "chick starter" feed in a mash or crumble form. Baby chicks are not big enough to consume pellets. Keep feeders full during the first week to help chicks find feed. Fill the feeders only three-fourths full during the second week and no more than half full thereafter to prevent excessive scratching and feed waste. Have plenty of feeder space and be sure all birds can eat at the same time. Chickens develop a pecking order, so watch for timid birds being kept away from the feeder by more dominant birds. Timid birds may require separate feeding to ensure they are getting what they need.

Lighting

Laying hens require **adequate light year-round to continue laying eggs**. Hens will quit laying eggs and molt in late fall when the days get short without supplemental light. The length of the photoperiod is more important than the intensity of the light. However, light intensity can affect cannibalism, aggression, and feed and water intake. Photoperiod can affect reproductive and egg production cycles, total feed intake, and growth rate.

Maximum egg production is usually **obtained with 16 hours of light** each day. This is not a problem during the long days of summer, but supplemental light will be required during winter when days are short to provide this much photoperiod. Light intensity is not that critical. A 25- to 40-watt LED equivalent light is usually adequate. It can be put on a timer or manually turned on and off. Sixteen

hours of light each day will keep hens laying throughout the winter. Hens usually lay an egg about every 25 hours. However, without supplemental light, hens may stop laying by late November and may not start back again until March when the days once again become long.

Heating

You are taking the place of the mother hen, so use a thermometer when setting up for baby chicks to maintain adequate temperature. Strive for a **chick-level temperature of 92–95°F** for the first week and then drop the temperature gradually by 5°F per week until a temperature of 65–70°F is reached. The coop should provide adequate ventilation and be light and airy but without drafts; chickens do not like drafts. After placing chicks, watch their behavior and adjust conditions based on what they are telling you. Cold chicks huddle together and chirp and do not seek feed or water; hot chicks get against the walls and away from the heat source; drafty chicks huddle together on the opposite side of the coop from the draft; happy chicks are active and spread evenly throughout the coop. Bedding material such as pine shavings or rice hulls on the floor of the coop is critical and helps with

- insulating chicks during cold weather,
- providing a cushion for the breast and feet,
- diluting excreta,
- absorbing fecal material, and
- drying feces.

Growing Stage

The growing stage covers the period from the end of brooding (14 days) until birds are harvested or are sexually mature. Management is not as critical during the growing stage as during the brooding period. Birds know how to find feed and water and can manage their own body temperature by this time. Some supplemental heat may be needed until they are fully feathered, but once grown, they can handle cold weather without problems if they can stay dry and out of the wind. It is best to keep them confined in their coop until they are 4 weeks old.

For best performance, do not allow birds to run out of feed during this stage. Adjust feeder height as the flock grows. If the feeders are too low, birds will waste large amounts of feed. Good quality water must also be provided at all times. Birds can quickly die on hot days without water. Water should be clean and fresh. Chickens consume twice as much water as they do feed.

Egg Production/Breeding

The time it takes for chickens to reach sexual maturity varies by breed. Females usually **start to lay eggs between 18 and 22 weeks of age**. Lighter breeds tend to mature faster than heavier breeds. Providing water is particularly important as it is the major component of eggs. If water is restricted or unavailable for long periods during the day, egg production will soon drop.

Layer feed should contain adequate amounts of calcium and phosphorus for proper eggshell formation. You can also supply calcium by allowing hens free-choice access to oyster shell, which is available at most feed stores or online. However, oyster shell is not hard enough to substitute for grit. Birds with outside access will select grit from their environment, but you may need to provide it to birds without outside access.

Hens will need a nest box or some other place to lay their eggs once they become sexually mature. Otherwise, they may lay anywhere; making it difficult to locate their eggs. One nest box for every four to six hens is adequate. A 12-by-12-by-12-inch box is a good size for average-sized hens. Larger breeds may require a slightly larger box.

Place the nest in a shady area (not in direct sunlight) to encourage the hens to lay eggs in the box. Hens usually seek a dark, secluded place to lay their eggs. Sexually mature **hens will lay eggs without a rooster present**. However, these eggs will not be fertile and can't be used to hatch future chicks. If you want fertile eggs to hatch baby chicks, you will need a rooster. If you don't need fertile eggs, you don't necessarily need a rooster. However, a rooster may help protect the flock from predators.

Predators

Predators will be a constant threat to your backyard flock. A long list of predators can threaten young chicks, including

- cats and dogs (these may be pets but can still see baby chicks as food)
- hawks and owls (aerial predators)
- snakes (threats to eggs and baby chicks)
- rats
- wild animals (raccoons, opossums, skunks, coyotes, foxes, minks, weasels, etc.)

Most predation occurs at night, so make sure your flock is housed and safe before it gets dark. If a predator does make it to your flock, it will return, and the problem will only worsen over time. You must remove the predator (not an option with hawks or owls because they are

federally protected), provide better protection, or expect more losses. Table 5 lists common predators and their signs.

Table 5. Common predators of backyard birds and signs they may leave behind.

Predator	Signs
coyote	Whole bird missing
	Scattered feathers
	Digging into pens
cat	Chicks or young birds missing
dog	Birds usually mauled but not eaten
fox	Whole bird missing
	Scattered feathers
hawk	Bird eaten on-site
	Lots of feathers
	Small birds carried off and eaten in nearby trees
	Feathers under trees
mink/weasel	Dead birds neatly piled
	Back of head and neck eaten
owl	Head and neck eaten
	Lots of feathers
	Sometimes whole bird eaten
	Feathers under nearby trees
	Nighttime losses
opossum	Whole bird consumed, feathers and all
	Sometimes wings or feet left behind
rat	Chicks or young birds missing
	Partially eaten chicks
raccoon	Breasts and entrails eaten
	Backs bitten
	Scattered feathers
	Birds grabbed from pens
skunk	Entrails eaten but not muscles or skin
	Lingering odor

Source: Tabler et al., 2014.

Biosecurity

A good biosecurity program is a critical best management practice for all backyard flock owners. *Bio* means life, and *security* means protection; therefore, *biosecurity* means life protection. Much of biosecurity is simple common sense. It means doing all you can to prevent an infectious disease from being carried onto your farm and taking steps to reduce the likelihood that disease (should it occur) will leave your property (Tabler et al., 2017b).

Biosecurity is important to prevent the spread of disease, maintain healthy flocks, and increase potential production and income from those flocks. The **three key**

components of biosecurity are isolation, traffic control, and sanitation. The two main pathways for disease spread are direct and indirect transmission. Direct transmission is physical contact between infected and healthy birds. Indirect transmission happens when a disease agent is carried to susceptible birds by

- humans
- feed
- water
- environment
- shared equipment – contaminated pens, pastures, or water supplies
- rodents or other vermin
- pets

These are possible disease signs in chickens:

- sneezing
- coughing
- nasal discharge
- watery eyes
- swollen sinuses
- twisted neck
- decreased feed and water intake
- decreased egg production
- decreased fertility and hatchability
- dehydration
- misshapen eggs
- depression
- huddling
- lethargy
- increased mortality

If you suspect disease or something other than normal mortality in your flock, contact:

- Your local county Extension agent
- Your local veterinarian
- Mississippi Veterinary Research and Diagnostic Laboratory (601-420-4700)

- Mississippi Board of Animal Health (601-359-1170/1-888-722-3106)
- Mississippi State University Poultry Science Department (662-325-3416); ask for an Extension poultry specialist

Summary

Your flock will depend on you for its survival and protection, and that requires a commitment of time and money. Backyard chickens can be a fun, enjoyable, and rewarding experience. However, **consider the time and expense required** before you make your decision. Plan ahead and take enough time to work out all the details before you take action. Know what rules and regulations apply in your area. There are more than 400 varieties of chickens, so know what you want and choose your breeds carefully. Housing and confinement will be critical to protect your flock from the elements, maintain proper biosecurity, and deter predators. **Extension personnel can help you determine if backyard chickens are the right fit** for you and your family. Your local Extension agent can put you in touch with an Extension poultry specialist, who can help you make informed decisions about backyard chickens.

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