



# Poultry Housing

**Most losses of chicken are due to predation. Design with this in mind. Secure any openings and lock chickens up at night.**

**Proper ventilation will help to ensure healthy birds.**

## **Introduction:**

Chickens are easy to keep practically anywhere provided they have access to several essentials such as fresh air, food, water, space, and protection from harsh weather and predators. There are three main questions you must address prior to building a coop which will help orient your design. What breed will you raise? What stage will you start; eggs, chicks, or mature? And finally, will you have a portable (free ranged flock) or fixed housing? The style of housing you build greatly depends on these three factors. Don't forget to check building requirements in your area. For small-scale production, coops can easily be fashioned from already existing buildings, or from other rather inexpensive materials. The coops can be as simple or as elaborate as you desire. Talk with people in your community who have chickens; they are probably happy to share their knowledge with you. Also, begin with a design that has already proven to be effective.

## **Best Management Practices:**

### **Housing Facilities for Mature Poultry**

- Build the coop on high, well-drained area.
- Face the front of the coop, all windows, and run (if incorporating one) to the south.
- Have doors opening inward.
- Use sliding windows so birds cannot roost.
- Use building materials that are easy to clean, and will not rot quickly.
- Slope the floor toward the door to prevent puddling.
- Lay pallets, or some kind of covering, in muddy areas.
- Lock up chickens at night to prevent theft.

### **Portable Coops vs. Permanent Coops**

A portable coop is a coop that has a bottomless floor and is moved as needed either by hand (skids are incorporated into the design) or by a tractor (the term "chicken tractor" is used), allowing chickens to forage for their food and take in fresh air. The coops are dragged around to new areas of grass depending on how destructive your chickens are to the grass, how much manure is produced, and the size of the coop. This design is highly recommended for broiler chickens and not for hens. If you are going to be raising hens and would like them to range, a nesting unit will have to be built. Depending on your climate, careful detail to insulation is needed in both extreme hot and cold conditions.

A permanent coop on the other hand is ideal if you have limited space, a large operations, or limited time for management. Benefits of building a fixed house are mainly due to the versatility in choosing building materials that are sturdier. A larger house can be built to accommodate harsh weather conditions, more chickens, and ensure easement of chores. The size of the house can be increased and added amenities like electricity can be supplied. If there is a desire to range the chickens, make sure to provide clean and new range as the old one becomes messy. Proper ventilation and insulation must be provided. Larger houses sometimes mean more openings for potential threat from predators; take this into consideration when designing the coop.

### **Overall design goals of a portable coop:**

- Easy to move.
- Does not harm chickens when moved.
- Withstands high winds.
- Protects from predators and harsh weather.
- Low maintenance cost.
- Enables chores to be done proficiently.
- Sustains the needs of growing birds.

### **Overall design goals of a permanent coop:**

- Insulated efficiently.
- Potential openings are tightly secured to prevent predation.
- Proper ventilation provided.
- House is sturdy enough to sustain inclement weather.
- Adequate space provided.
- Sustains the needs of growing birds.

### **The following are general requirements for all coops:**

#### **Adequate Space**

Birds need an ample amount of space for exercising, nesting, and roosting. Cramped conditions lead to disease. If chickens are kept inside, they need more space, if kept outside, they need less space. Overall, approximately 2-10 sq ft. of space per bird is needed; the exact space requirements are determined by the type of bird raised.

#### **Nesting Boxes**

Chickens need their privacy when laying their eggs. Wouldn't you? Incorporate nests boxes in a separate area away from others. One box for every four birds is enough; they will share and sometimes even lay in the cozy corner not utilizing the boxes. The dimensions should be slightly larger than your birds. A slanted roof (to deter buildup of manure) should be placed over the nest boxes to ensure comfort and privacy to the birds.

#### **Roosts**

Practically anything can be turned into a roost, where the animal can sleep. Some of the best roosts are large sticks laid across the coop. Another example is an old step ladder, which provides several resting places. Manure will build up around roosts. A pan with wire mesh may be placed underneath to catch feces, allowing for quick manure clean up and less smell.

#### **Walls**

Most people use a wood frame construction. Experimenting with different materials can lead to unstable coops. Vertical 2 by 4 studs are sufficient with some type of sheathing, either planks or plywood attached on the outside. If not constructed tightly

enough, the walls should be insulated depending on the climate.

#### **Floors**

The media used for flooring is a matter of preference. Place soft bedding, such as wood shavings, on top of flooring to lessen strain on chicken's feet. Provide a scratching area to ease the cleanup of manure and decrease smell.

**Dirt-** is cheap and easy, but difficult to remove manure. If the soil is not permeable, it will turn into mud, creating a muddy mess that will harbor pathogens and bacteria. Prior to implanting a dirt floor, perform a test. Dig a small hole in your chosen site, add water and see what happens. If the water does not permeate through the soil, then a dirt floor is not your best option.

**Wood-** can be bought or salvaged from the dump, provided it is in good condition and not treated with chemicals. 1-2" thick of wood should be sufficient. Joists are needed for underneath the planks to support the wood. The wood will eventually rot.

**Concrete-** is a great choice for a permanent coop. It is easy to clean, impervious to rodents, and acts as a barrier to clever predators. Concrete is the most expensive and requires the most effort.

#### **Predators**

Use common sense when building your coop. Place locks and heavy, tight wire fencing around the coop. Keep poultry confined with a covered fence. Any openings, such as a window or door, should have heavy-gauge mesh wiring. Predators are sneaky and intelligent animals that have no problem squeezing through any small opening. Automatic, battery powered doors have been shown to be very effective as well as time saving. A timer may also be incorporated with this system.

**Outside runs-** protect your birds by burying a mesh wire fence at least 12" into the ground. This will impede predators from digging under the fence. An electric fence may be placed around the coop and run to ensure more protection. Eliminate attacks from avian species, such as hawks and other birds-of-prey alike by avoiding perches, such as window sills, and covering runs with mesh wire or netting

#### **Fresh Water and Food**

Waters and feeders, if not foraging, should be placed throughout the facility. On warm days, place water outside to avoid increased moisture inside the coop. Make sure the water containers are oriented in a way that the birds will not defecate in them and make a mess. The height of food and water containers should not be lower than the birds' back.

## Let There Be Light

If raising egg layers, make sure there is adequate light all year round. Windows should be placed on the south side of the coop. This will ensure proper ventilation in the summer months and light and warmth during the winter months. Lights should be installed to maximize production. Hens require at least 15 hours of “daylight”, and will usually lay one egg every 25 hours. Hens exposed to decreased hours of light will go into a molt and quit laying.

## Weather Control

**High Winds-** Build portable housing close to the ground, with sturdy enforcements and tie-downs. The tie-downs in particular will secure the frame of the house. This is a very important preventative measure to employ.

**Heat-** As mentioned before, windows, cupolas, and insulation should be installed. Fans may also be of use, if in the means of your budget.

**Cold-** Insulation should be installed and possible electric heaters if your climate permits.

## Ventilation

Proper ventilation ensures fresh air to the birds. Chickens are unable to sweat; they start to pant like a dog around 95 degrees F. They give off moisture, heat, and carbon dioxide as they breathe, and as manure mixes with litter, more moisture and ammonia are released. If levels of moisture and ammonia build-up, airborne pathogens are released, causing health problems. To increase air flow, windows should be installed along the south or east side, away from prevailing winds. Well ventilated coops must also have appropriate insulation to prevent moisture accumulation on the walls and ceiling. When installing windows, make sure there are no flat surfaces for the birds to sit on, for they will defecate there.

## Resources:

Auburn University

<http://www.aces.edu/poultryventilation/>

Automatic Doors

<http://www.chicken-house.co.uk>

Banks, Stuart. 1979. *The Complete Handbook of Poultry-Keeping*. Van Nostrand Reinhold Company. N.Y.

Clauer, Phillip J. “Small Scale Poultry Housing”. Virginia Tech Cooperative Extension.

[www.ext.vt.edu/pubs/poultry/factsheets/10.html](http://www.ext.vt.edu/pubs/poultry/factsheets/10.html)

[www.downthelane.net](http://www.downthelane.net)

Plamondon, Robert. “Range Poultry Housing”.

Appropriate Technology Transfer for Rural Areas.

<http://www.attra.org/attra-pub/PDF/poulthous.pdf>

<http://www.poultryconnection.com/>

This link is not updated but does have excellent references to specific housing plans.

<http://www.poultryhelp.com/link-housing.html>

Rossier, Jay. 2002. *Living with Chickens: Everything You Need to Know to Raise Your Own Backyard Flock*. The Lyons Press, CT.

University of Minnesota. “Small-Scale Poultry

Housing.” [http://www.ansci.umn.edu/poultry/resources/housing\\_small-scale.htm](http://www.ansci.umn.edu/poultry/resources/housing_small-scale.htm)

For more information visit [www.umass.edu/cdl](http://www.umass.edu/cdl)

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