

Housing and Environmental Management of Poultry

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There are several basic needs that need to be provided for poultry. These are feed, water, fresh air, light, darkness, proper thermal environment, protection (from the elements, predators, injury and theft) and proper space. Proper housing and equipment will take care of many of these items. Poultry and other animals function normally when they exist in harmonious balance with the other living forms and the physical and chemical factors in their environment. Therefore, it is the role of the poultry owner to properly manage the animals in their care.

HOUSING

Poultry require a dry, draft free environment. Depending upon the number of birds to be housed, almost any type of building that provides controlled ventilation, such as windows and doors, can be used. Birds should be reared in high, well drained areas. The windows of the coop and, outside run should face south to allow maximum exposure to the sun throughout the year. This helps with warmth in the winter and dryness during the rest of the year.

If you are building new, consider a concrete floor and starting your walls with two concrete blocks. This will prevent rodents, snakes and other predators from digging under the walls and floors for entrance into the coop.

If you use plywood for floor construction, consider using two layers of 3/4" CDX plywood, with a layer of 1/4" or 1/8" galvanized wire mesh between the layers, then raise the floor off the ground with posts or 6" x 6" runners. Using runners allows you to move the coop as needed. Being off the ground also helps prevent rot and moisture in the coop. All this helps prevent predators from chewing through the floor. Some have found that using the double layer of plywood with wire mesh and insulation between the layers helps keep the coop warmer in the winter. Windows should also be covered with wire mesh to keep wild birds and other predators out. For summer, a wire mesh screed door helps keep the coop cooler at night.

Ventilation provides comfort for the birds by removing moisture, ammonia and other gases; provides and exchange of air and helps control the temperature of the pen. You can use natural or gravity fed ventilation with windows, flues and slats. Or you can use forced air ventilation if you have a larger number of birds. In a small coop (less than 150 sq ft of floor space) you can use a bathroom fan in the ceiling and slats in the walls or windows to remove excess moisture in the winter, much as it does in your home. It is important to remove excess moisture and ammonia from the coop, especially in cold weather when ventilation is at a minimum.

For predator protection, keep your birds confined with fence and covered runs. Outside run fencing should be buried at least 12" to 18" with an 6" to 8" "L" or "J" to the outside, backfilled with rocks and soil to prevent digging predators. To prevent problems with flying predators, cover your outside runs with mesh wire or netting. A good ground cover of millet, broomcorn, sorghum or other tall leafy vegetation provides hiding space for the birds. A 3-4 ft. grid over the pen made from bailing twine has also proven effective against flying predators.

Space:

Birds need adequate space for feeding, exercise, breeding, nesting and roosting.

Minimum Space Requirements

Type of Bird	Sq ft/bird inside	Sq ft/bird outside runs
Bantam Chicken	1	4
Laying Hens	1.5	8
Large Chickens	2	10
Quail	1	4
Pheasant	5	25
Ducks	3	15
Geese	6	18

Perches: Provide chickens with 6-10 inches of perch space per bird. Round perches are the best, and a tree branch of about 1" to 1.5" in diameter works well. Meat birds and waterfowl do not require perches.

Nests: It is best to provide one nest box for each 4-5 females in the flock. 12-14" cubes with front open.

Floor material: Litter floors of wood shavings is the best. Wood has an excellent capacity to absorb moisture and then re-release it into the air. Whatever you use, keep it clean and dry.

FEED AND WATER

Birds need free access to fresh feed. Feeders can be made of wood, metal, or plastic, but it is important to provide about 2-3 linear inches of feeder space per bird and up to 6" for meat type birds and turkeys. They should be adjustable in height so the lip of the feeder will be at the level of the back of the bird when standing. Keep troughs only half full to prevent feed wastage.

Fresh water should always be available to your birds, inside or outside. Again, keeping the lip of the waterer level with the back of the bird is essential. For winter watering, metal waterers can be placed on low temp heaters, keeping the water at about 50°F.

LIGHT

Poultry require artificial lighting to maintain egg production during the short days of winter. Poultry are long-day breeders and we normally provide laying hens about 16 hrs of light per day throughout the year. Light timers set to come on at 5 am and off at 9 pm will supply the hours required. Low wattage CFL or Incandescent lamps that supply about 1 foot candle of light at bird level is adequate. Never decrease the hours of light on laying hens or increase the hours of light on a growing bird.

BROODING

Raising and brooding baby chicks requires special care. Chicks need to be reared in isolation for disease prevention. They should be reared in a clean and disinfected environment. Baby chicks cannot properly regulate their body temperature for a few days after hatching and require a heat source. Heat lamps, brooder stoves, hovers and infrared heaters work well. A brooder guard, a ring of cardboard or plastic at least 18" high on the floor circling the heat source keeps the chicks from getting too far from the heat and reduces drafts. Watch the birds, if they huddle under the heat source, they are too cool, if off to one side, a draft, if spread evenly, just right.

For newly hatched birds it is best to provide them with water for the first couple of hours before giving them solid feed. This helps clean out their excretory system. If you get chicks from a distant hatchery through the

mail, then give them a 5% sugar water solution for the first few hours to boost their energy level.

Some Resources for Small Scale Chicken Coops.

<http://www.backyardchickens.com/coop>

Forsham Cottage Arks; <http://www.forshamcottagearks.co.uk>

Poultry Housing http://www.members.tripod.com/~mcpf/Housing_Shelter.html

Moveable Pen Designs: <http://www.utm.edu/departments/ed/cece/idea/mopens.html>

Coop Designs/US <http://backyardchickens.com/coop.html>

Henhouses <http://www.henhouses.co.uk>

Domestic Fowl Trust; houses stock and more <http://www.mywebpages.net/domestic-fowl-trust>

www.ext.vt.edu/pubs/poultry/factsheets/10.html

<http://gallus.tamu.edu/library/dother.html> (links to many poultry sites)

<http://www.henhouses.co.uk/>

Some good Books and resources for poultry:

Storey's Guide to Raising Poultry - Leonard S. Mercia
Storey Books, Pownal, Vermont 05261
ISBN 1-58017-263-6

A Guide to Raising Chickens - Gail Damerow
Storey Books, Pownal, Vermont 05261
ISBN 0-88266-897-8