



Small-scale Poultry Housing

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Introduction

Small-scale poultry coops seem to be built in almost every possible shape and size. Those building a new coop may find a range of plans on the internet. Rather than building a new coop, existing buildings can easily be adapted to accommodate poultry. Poultry housing can be as crude or elaborate as you wish.

Protection

A good poultry house protects the birds from the weather, predators, injury, and possibly even disease.

Weather

Poultry require a dry, draft-free house. This can be accomplished by building or using a house with windows and/or doors which can be opened for ventilation when necessary. Place the coop on high, well-drained areas. This prevents prolonged dampness and water saturation of the floor of the coop and outside runs. Face the front of the coop, the windows, and the outside run to the south, this will allow the sun to warm and dry the coop and soil. Ensuring adequate space per bird also helps to keep the humidity level in the coop to a minimum.

A nearby or in-coop electrical outlet may be useful to provide additional heat in the coop during cold months (for instance by using a poultry heat lamp) and additional light if egg laying rates are lower than preferred (hens need about 14-16h of lighting to keep producing eggs at a high rate; read more "[Why Have My Hens Stopped Laying? 5 Factors that Impact Egg Production](https://www.pubs.ext.vt.edu/2902/2902-1097/2902-1097)") (https://www.pubs.ext.vt.edu/2902/2902-1097/2902-1097).

Predation

Keeping poultry totally confined with fencing and in covered runs is your best protection from predators.

If you are building a new facility, consider laying a concrete floor, and start the wall with one or two concrete blocks. This prevents rodents, snakes, and predators from digging under the walls and the floors. Windows and doors must be securely covered with heavy-gauge mesh wire or screening.

With outside runs, bury the wire along the pen border at least 12 inches deep, and toe the fence outward about 6 inches. This stops most predators from digging under the fence as they always dig at the base of a fence. By toeing the fence outward and burying it, the predator digs down right into more fencing. Some people use electric fencing at about 4 inches off the ground and 1 foot from the main fence to discourage predators. If your outside run is not predator-proof, you need to lock up your poultry before dark, as most predation occurs at night (fig. 1).



Figure 1. For seasonal production, a simple A-frame coop, electric fencing, and -on this farm- a guarding goose will protect these meat-type chickens from most predators. (Leonie Jacobs, Virginia Tech)

To prevent problems with birds of prey, cover the top of your outside runs with mesh wire or netting. Providing your poultry with perennial cover (bushes, small trees, tall grasses) or other tall leafy vegetation provides cover for the birds to hide under, and

makes poultry feel safer. Generally, a 3-4 feet grid over the pen constructed of mesh or twine will give excellent protection from flying predators. A protective dog kept near your coop can also work well to discourage predators and unwanted visitors.

Injury

Build your poultry house to prevent possible injury to your birds. Remove any loose or ragged wire, nails, or other sharp-edged objects from the coop. Prevent perching in areas such as window sills, nest box tops, or electric cords whenever possible. These extra measures could eliminate any injury to you or your birds and may prevent damage to the coop as well.

Disease

Good biosecurity measures will reduce risk of disease. Avoiding contact with wild birds, feeding your poultry inside, avoiding poultry access to wetlands or ponds (especially waterfowl can transfer disease like avian influenza), using designated equipment and clothing, and hand washing are some ways to avoid disease transfer to your birds. Watch this [extensive talk on backyard poultry health and biosecurity](https://www.youtube.com/watch?v=PMEIWUIC8hw) (<https://www.youtube.com/watch?v=PMEIWUIC8hw>) for more information.

Adequate Space

Birds need adequate space for movement and exercise as well as areas to nest and roost. Space requirements vary with the type of birds you raise. Minimum space requirements indoors will be greater if birds do not have access to the outdoors. There is very little research on space requirements for small-scale poultry housing. You can never provide too much space (table 1).

Table 1. Recommended space provision for some main bird types¹.

Type of bird	Sq ft/bird inside	Sq ft/bird outside run
Quail	1	4
Bantam chickens	2-3	5-8
Laying hens	3-4	10
Meat-type chickens	3-4	10
Turkeys	6	20
Pheasants	5	25
Ducks	5	>15
Geese	15	>30

¹ Some information retrieved from [Poultry Extension](#)

Pigeons require a minimum of 4 square feet per breeding pair, 1/8-inch perch and two 9-inch × 9-inch nests per breeding pair are recommended.

Perches

With chickens, always provide 8-10 inches of perch space per bird. Even meat-type chickens and turkeys are motivated to perch. However, their body confirmation (especially in fast-growing strains) limits their ability to perch on 'normal' perches. Therefore, providing them with elevated platforms could be a great alternative as platforms provide support for their breast muscle.

Larger birds will use platforms to perch on throughout their lives (fig. 2). Even low platforms that are just 3 inches of the ground will be preferred over no perch space at all. Perches are not usually used with waterfowl.



Figure 2. Poultry are highly motivated to perch; even fast-growing meat-type birds will 'perch' on platforms if provided. (Leonie Jacobs, Virginia Tech)

Nests

Always provide at least one nest for every 4-5 females in the flock (fig. 3). Meat-type birds do not require nest boxes.

Easy Access to Feed and Water

Feeders and waters should be placed conveniently throughout the pen for birds' access. Place the bottom of the waterers and top lip of the feeders at the birds' back height. This will keep the feed and water clean and prevent wastage. Small birds like pigeons, bantams and quail only require 1 linear inch/bird of feeder and water space and large birds require 2-3 linear inches/bird.

When possible, place the waterer in the outside runs, especially for waterfowl. This helps to keep the humidity level lower inside the coop. Waterfowl are

highly motivated to swim, thus providing them with open water that allows for full body immersion is important for their health and welfare.



Figure 3. Young hens housed with perches, nest boxes, a bell drinker, a hay bale, and a feed trough. Chickens are highly motivated to perch from early-on in life. (Leonie Jacobs, Virginia Tech)

Sources of Light

If you wish to produce eggs from your flock year-round, you must have a source for electric light as mentioned earlier. One light point for every 40 feet at ceiling height is appropriate. Most small poultry houses do very well with one light above the feeding and watering area.

Windows placed on the southside of the coop will also be a good source of light and warmth in winter and a good source of ventilation in summer.

Ventilation

Ample air movement without a draft is essential. Fresh air brings in oxygen while excess moisture, ammonia and carbon dioxide are removed as the stale air moves out of the house.

Dampness and ammonia build-up are a sign that there is not enough ventilation. Windows or vents on one side of the house usually provide plenty of ventilation for small coops.

Well-ventilated houses must also have plenty of insulation and a good vapor barrier. Failure to

insulate or ventilate properly causes moisture to accumulate on the walls and ceiling in cool weather.

Poultry can handle cold very well if they are dry and are fully feathered (lost their down). However, cool and humid conditions can create many health problems. Locate openings on the side away from prevailing winds. The south or eastside are usually best.

Housing Appearance

Although this may be less relevant, the appearance of any poultry house or outside run that is visible to the neighborhood should never detract from the overall appearance of the surroundings.

Exteriors of structures should be kept painted and well-maintained. Weeds and trash should be removed from around all facilities.

Proper landscaping can provide screening and help muffle sounds from the birds. Unsightly structures are not good for the image of bird raising and may lead to new laws restricting the raising of birds in your area.

Use Common Sense

When building a poultry house or modifying an existing structure to house poultry, use common sense in designing the structure. Build the roof high enough and situate permanent structures as nests, perches, and feeders for easy access.

Make it easy to clean all areas of the house. Install doors so that they open inward. Using sliding windows so that the birds cannot roost on them rather than windows which swing in or out. Use building materials which will be easy to clean and disinfect.

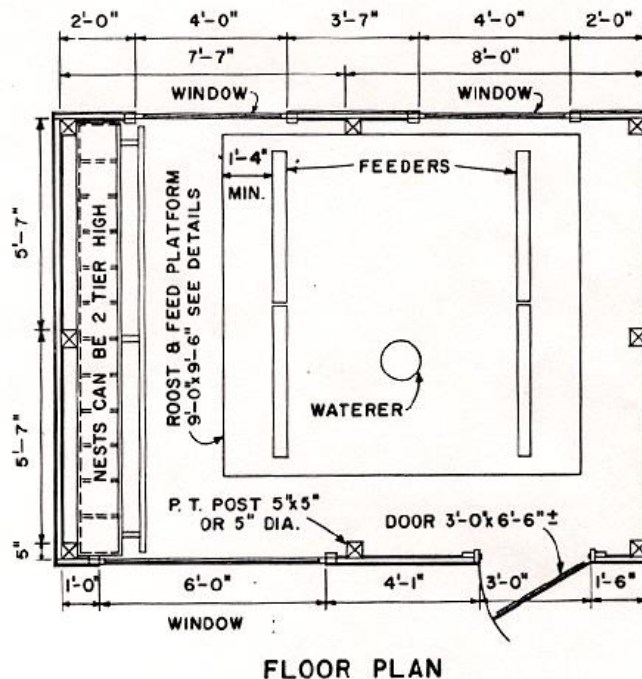
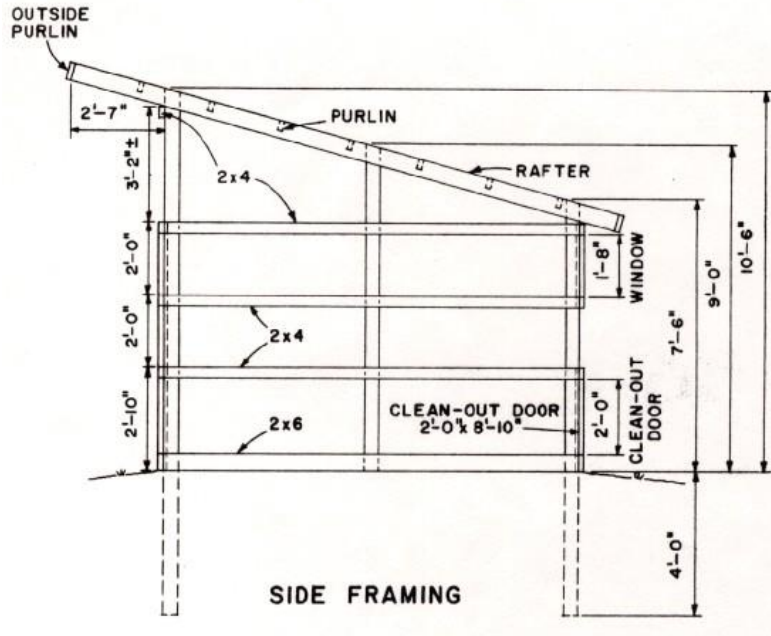
Slightly sloping the floor toward the door can help prevent puddling in the building and will make the building easier to spray out and dry between uses.



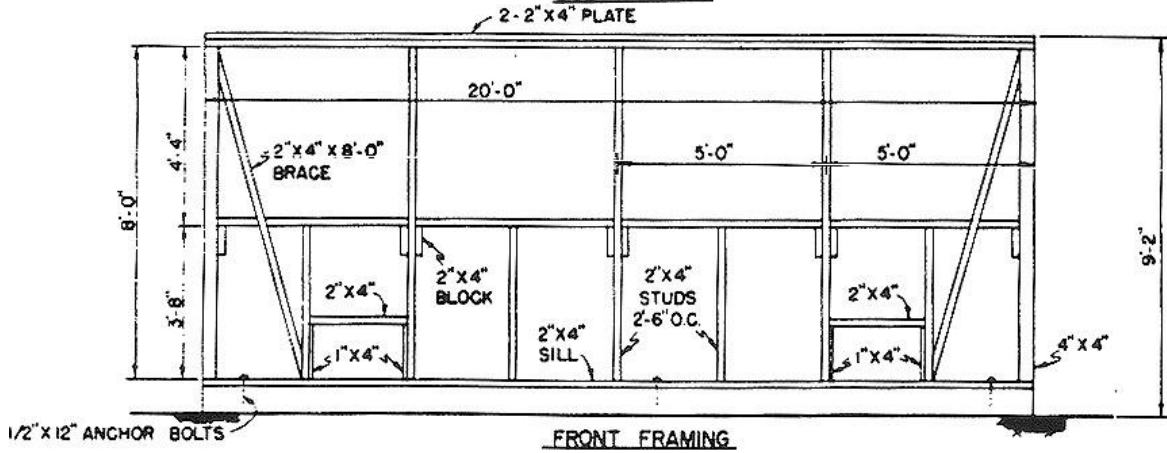
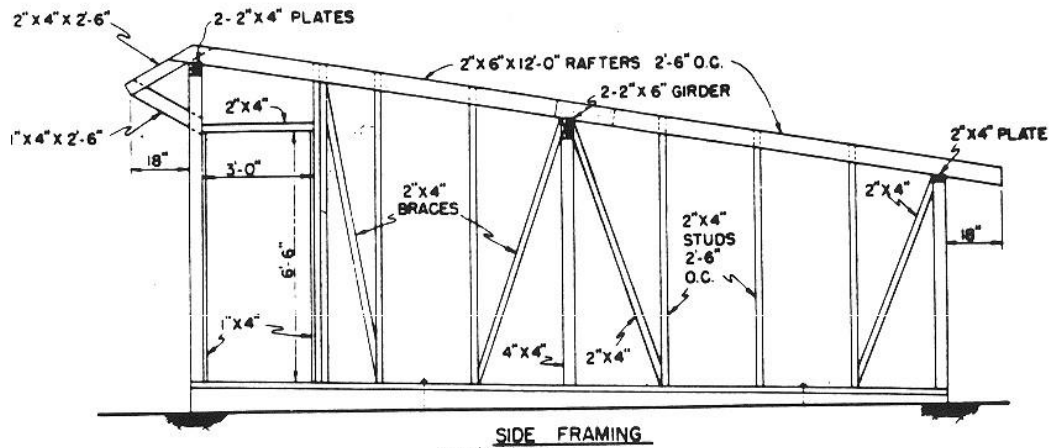
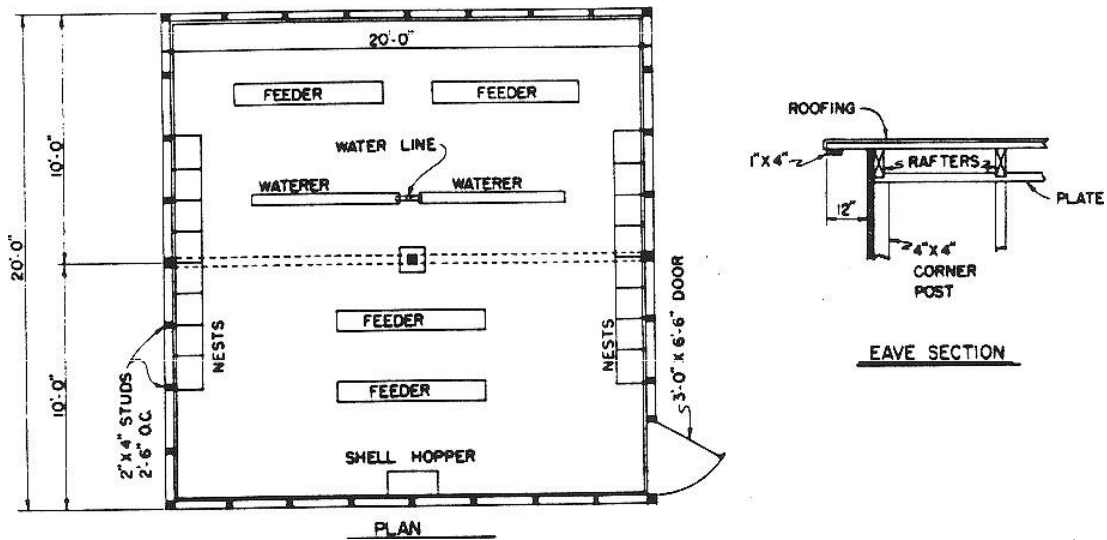
Designs for Small Poultry Structures

The following are some designs of small poultry structures. However, remember, most existing structures can easily be adapted to accommodate a small poultry flock.

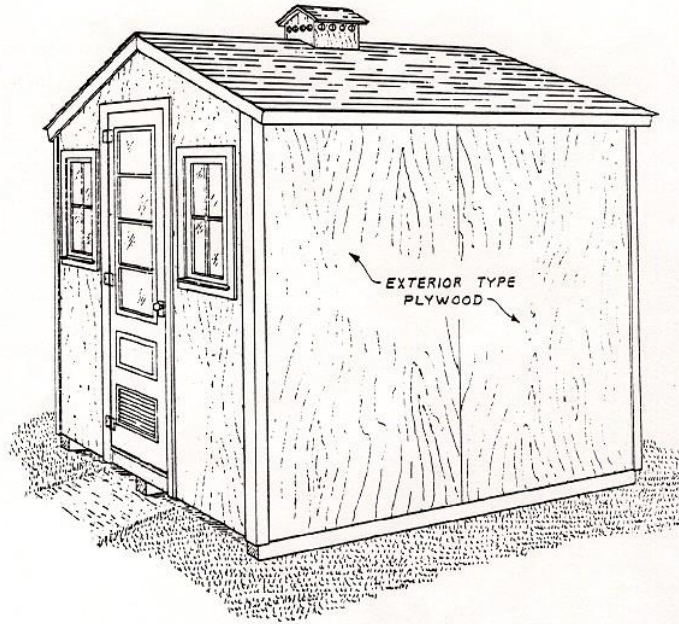
Plan No. 6188 for 50 to 65 Hens



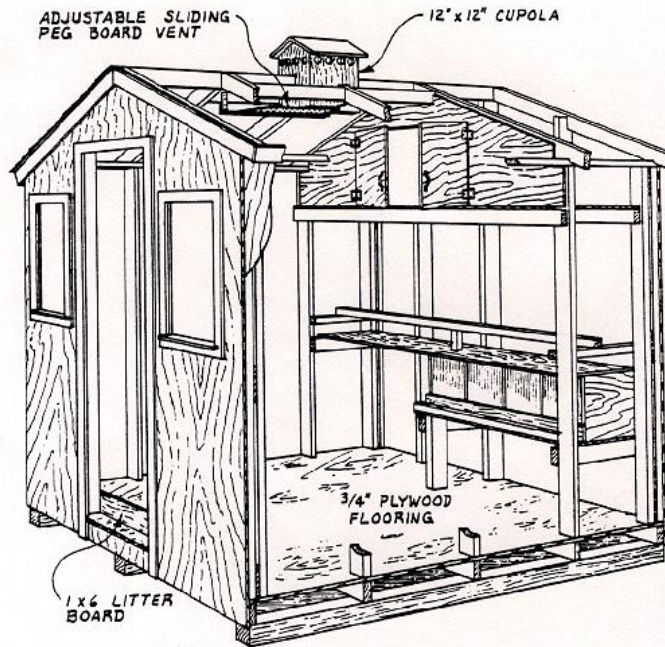
Plan for a 20' x 20' Layer House: 100 to 130 Hens



Plan for an 8' x 8' Layer House - 15 to 20 Hens



PERSPECTIVE



CUTAWAY VIEW

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