Poultry Farm Equipment

By H. H. Alp

University of Illinois
College of Agriculture and Agricultural Experiment Station
Circular 333
OTHER PUBLICATIONS ON POULTRY EQUIPMENT AND FEEDING

The following poultry publications may be had upon request to the College of Agriculture, University of Illinois, Urbana, Ill.

Feeding for Egg Production. 275-C
A Colony Brooder House That Starts Chicks Right. 291-C
Housing Farm Poultry. 315-C
Raising Chicks at a Profit. 329-C
Some Tests of the Effect of Salty Rations on Chickens. Abst. 279-B

Urbana, Illinois
February, 1929

Poultry Farm Equipment

By H. H. Alp, Extension Specialist in Poultry

Hens will repay with many full egg baskets the poultry-man who will see to it that they have plenty of suitable equipment in the form of poultry house fixtures. Despite the importance of such equipment, it is not an uncommon thing to find a flock owner with good birds, good houses, in fact, everything except good equipment. Under such conditions the job of poultry keeping is only half done. Quite often the flock's production is seriously curtailed for want of enough hopper space from which to feed or perhaps for the want of sufficient drinking and nesting facilities.

While some poultrymen do not have enough equipment, there are others whose premises are cluttered with numerous articles of various sorts, many of which are next to useless.

Most of the equipment needed about a poultry farm can be made readily at home. The models and types portrayed in this circular are recommended chiefly because they are more or less simple in construction, have proved satisfactory in use, and they serve to illustrate some of the principles that should be observed in building equipment for the poultry farm.

Pictures have been used almost exclusively in this circular on poultry farm equipment, because it is believed that they are more easily, quickly, and accurately interpreted than are word descriptions and discussion. Many photographs are used and a few drawings, the drawings being supplemented with photographs of completed equipment. It has been the author's experience that a good photograph of a piece of simple equipment is often of more use as a guide in its construction than is a line drawing. As both may be helpful, both have been included for some pieces of equipment illustrated herein.

The drawings used in this publication were supplied by W. A. Foster, Assistant Professor of Rural Architecture, and R. G. Morris, of Agricultural College Extension.
Indoor Hoppers

A hopper should be so constructed as to prevent waste and contamination of feed and to supply ample feeding space. A safe rule to follow is to have one foot of feeding space for every five hens. Thus an 8-foot hopper that allows for feeding from both sides will accommodate 80 birds.
Indoor Hoppers

Lumber required

1 pc 2" x 2" x 10' white pine for roller and cleat on ends
1 pc 1" x 10" x 12' white pine for bottom and ends
4 pcs 1" x 6" x 8' white pine for sides of hopper and stand supports
2 pcs 1" x 6" x 10' white pine for stand supports
1 pc 2" x 4" x 8' white pine for legs
2 pcs 1/4" x 13/4" x 8' white pine for strip on top edge of sides of hopper
The outdoor hopper should be built not only so that it will prevent waste and contamination of feed, but also will keep the feed dry. The hopper illustrated is suitable for feeding dry mash or grain feed to young stock while on range. It is not satisfactory for chicks less than six weeks old.
Outdoor Hopper

Lumber required

1 pc 1" x 10" x 14' white pine for bottom, ends, and one side of cover
1 pc 1" x 6" x 12' white pine for sides and cross pieces on cover
1 pc 1" x 12" x 6' white pine for cover
1 pc 1" x 4" x 12" white pine for side rails
Baby chick feeders should supply plenty of feeding space and permit easy access to the feed. A 30-inch tray or a small open hopper will provide feeding space for 50 to 75 chicks. The open-tray feeder may be replaced with a hopper to prevent the chicks from soiling the feed.
Chick roosts arranged as shown generally encourage early roosting, especially if placed in the house while the brooder stove is still in use. Wire netting prevents the chicks from crowding underneath the roosts and keeps them away from the droppings.

Materials needed

1 pc 2” x 4” x 10’ for supports
1 pc 2” x 4” x 12’ for supports
80 linear feet of 1” x 3” for perches
24 linear feet of 30” chicken wire having 1” mesh
Chick Hurdles

Three frames made as shown in the drawing, placed in front of a colony house, provide a very satisfactory enclosure for chicks during the first two or three weeks they are outside. These frames, fastened together with hinges, are handy for catching birds for culling purposes.

Lumber required
2 pcs 1" x 4" x 10' or 12' yellow pine for sides
1 pc 1" x 4" x 8' for ends and center brace
The catching hook is made of No. 9 wire and when finished should be not more than 4 feet long. The catching net as illustrated is very handy for outside use. It can be simply made by fastening a 14- or 16-inch circle of No. 9 wire to a wooden handle; an old hoe handle will do. The netting, which is made of chicken wire with a 1-inch mesh, is then shaped and fastened to the ring.
Once or twice a year, or perhaps oftener, it will be necessary to catch the entire flock for some purpose, and a catching crate such as illustrated will be very convenient for such a job.
Catching Crate

Materials needed
2 pcs 1" x 3" x 5'
4 pcs 1" x 4" x 5' for side rails
6 pcs 1" x 4" x 1' 6"
14 board feet for flooring
70 linear feet 1" x 2" for slats
1 pc 1" x 10" x 8' 6" for end gates
9 linear feet of 12" netting

![Diagram of the crate with dimensions and views](image)
Nests

All nests should be so constructed as to provide plenty of ventilation and to permit easy cleaning. The open nests illustrated above are made with wire backs and in sections, thus allowing for ventilation and easy cleaning. The size of nest is governed by the kind of chickens kept. A large bird should have a nest measuring 14 by 14 inches, while 12-by-12-inch nests are large enough for smaller birds such as leghorns. One open nest should be allowed for every five or six hens.
Nests

The open nests shown on page 14 as they appear when put together.

There should be one trap nest to every four hens. The wire back and top as shown in the nest on the right afford good ventilation, one of the most important essentials of a trap nest. Fronts for trap nests may be purchased for the ordinary type of wall nest at a nominal cost.
Drinking Equipment

The slat floor allows waste water to leak away, while the pails can be removed easily for cleaning. The 16-quart pails furnish enough water for 100 to 125 hens.

Any dish or container which will not require frequent filling, which can be cleaned easily, and which will permit several birds to drink at a time, may be used. Young chicks should have protection from drowning.

Water Heaters

Some means should be employed to prevent drinking water in a poultry house from freezing. Oil lamps, electric heaters, thermos waterers, and insulated containers for the drinking dish are some of the common means used.

The electric heater shown on the opposite page is easy to construct and has proved very satisfactory.
This electric water heater is used at the University of Illinois poultry plant. It was constructed to use with an ordinary 3- to 4-gallon pail. The heating element shown in the lower left-hand picture is 4 inches in diameter and pulls 100 watts (a 50-watt carbon-filament light bulb or some other heating unit may be used in a similar way when less heat is required). It is plugged into a receptacle which is fastened to a wooden circular base. This base is just the size of the bottom of the pail and has a 2-inch strip of tin tacked around the edge to hold the pail in position. The pail was changed by a tinsmith to fit over the heater. The extension cord is rubber covered. The approximate cost was about $3 complete.

1Element purchased from E. L. Weigand & Co., Pittsburgh, Penn., as the Chromalox Heater.
The fattening crate shown is a simple, slat-constructed crate or coop of three separate compartments. A simple door, fastened with screen-door hinges, is placed about the middle of the front so that all parts can be easily reached for cleaning or catching the birds. A V-shaped trough is placed on both sides for feeding. The materials required will depend upon the size. For the crate shown, which is 20 inches high, 24 inches deep, and 8 feet long, the following materials are needed:

**Floor:**
- 2 pcs 1” x 12” x 8’
- 3 pcs 1” x 6” x 2’ for battens

**Cover:**
- 2 pcs 1” x 12” x 8’
- 3 pcs 1” x 6” x 2’ for battens

**Slats:**
- 48 pcs 1” x 2” x 20”
- 4 pcs 1” x 3” x 20” for corners
- 16 pcs 1” x 2” x 2’ for ends
- 2 pcs 1” x 4” x 4’ for trough supports
- 4 pcs 1” x 6” x 8’ for trough
- 3 pairs of screen-door hinges
- 2 carpenter horses, short length
Broody Coop

The broody coop illustrated suggests a way of building a satisfactory outdoor coop. This particular coop is about 3 feet wide by 4 feet long and about 18 to 20 inches high from the floor. It is set up off the ground about 2 feet and has a slatted bottom. This coop will come in handy for other purposes; it can be used for a fattening coop, to hold reserve cockerels, and to house sick birds.

Screen Platform

A screen platform is an important aid to sanitation. It may be used to advantage in front of the brooder house, under drinking dishes, and under mash hoppers.
A good spray pump is needed frequently for cleaning poultry houses. A scale such as the one shown above on the right is convenient for weighing feed and poultry.

Selling eggs on a quality basis necessitates a candler. The picture on the left shows a good type of candler. Pedigree bags and baskets are necessary for pedigree hatching in any quantity.