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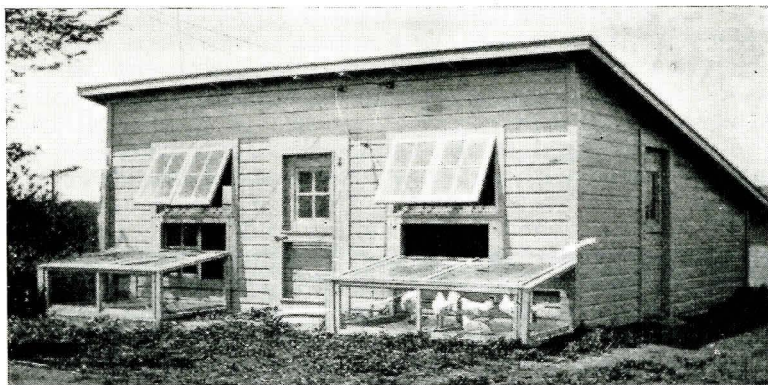
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Extension Circular 1462

Revised, June, 1933

Brooding Chicks in Large Units



The 20'x20' laying house may be used for large broods of chicks.

The University of Nebraska Agricultural College Extension Service
and United States Department of Agriculture Cooperating
W. H. Brokaw, Director, Lincoln

Brooding Chicks in Large Units

BY J. H. CLAYBAUGH AND PAUL R. HOFF

Commercial poultrymen have been quite successful when brooding units of 500 to 800 chicks. The regular sections of the laying house or rooms 20 by 20 feet in size are converted into chick brooding apartments. Because of the economy of fuel, labor, and equipment, this system combined with the starting of chicks in battery brooders appeals to the poultryman who studies his cost account figures. A brief description of this method of brooding chicks with the necessary equipment follows.

How a room that is 20 by 20 feet in size can be converted from a laying house into a brooding space is illustrated in Figure 1.

To dim the light in the room, the rear windows are usually covered with paper or muslin and a muslin curtain is hung 6 to 8 feet from the front of the house. This curtain can be nailed to the ceiling and should touch the floor during the first few days of brooding. The chicks are confined to this semi-dark area during the first week. The curtain makes the back part of the house easier to heat. The difference in temperature between front and rear of the house is quite desirable. The semi-darkness in the back part of the house is also added insurance against losses from cannibalism. The curtain is justified even though a 15-watt bulb is left burning during the first week of brooding.

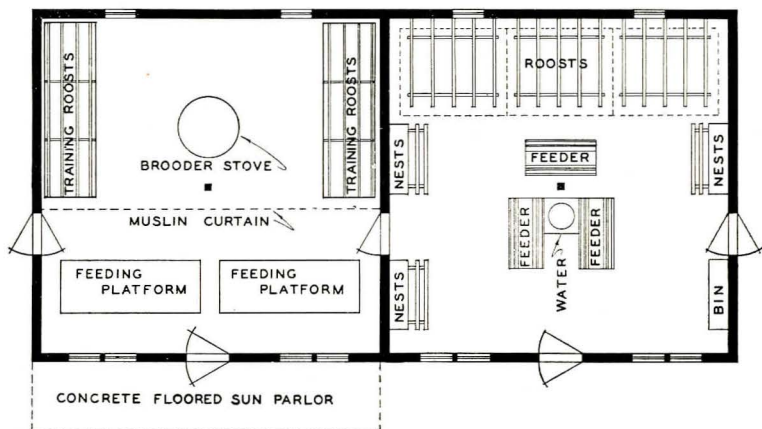


Fig. 1.—Floor plan of 20x40 laying house with one room converted into a brooding room

Ruby Colored Lights Prevent Cannibalism

The use of rather dim artificial lights in the building has proven a help in decreasing losses from night piling. Night feeding also increases feed consumption and results in more rapid growth. The use of night lights may continue only for the first week or two or until the chicks become used to their surroundings. Other operators continue to use night pilot lights thruout the summer.

The use of a ruby colored light bulb has been adopted by some because the red or bloody part of a victim of cannibalism cannot easily be seen under such light rays. "Cannibalism has been controlled and prevented by the use of natural colored ruby lights in battery brooders and fattening batteries at Washington Agricultural Experiment Station," reports J. S. Carver. After conducting an experiment where eight different colored lights were used, the ruby colored lights were adopted for use when lighting chicks.

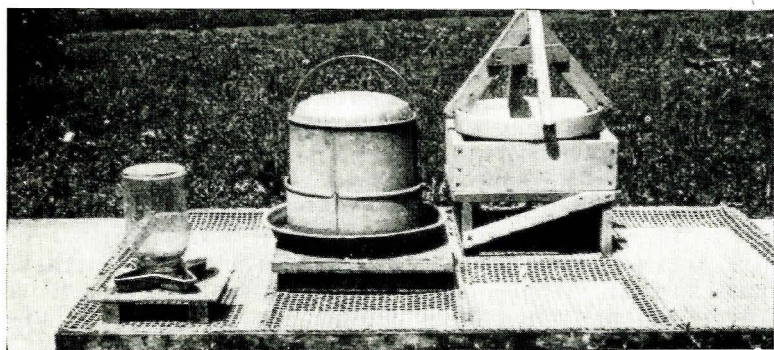


Fig. 2.—Wire platforms beneath waterers protect chicks from damp litter. Chicks do not wade through elevated waterers.

Platforms Keep Feed and Water Clean

Screen covered platforms to hold all of the needed feed troughs and water vessels are recommended. These platforms are built three to four inches high and one-half inch meshed hardware cloth is stapled onto well reenforced frames. These platforms may be placed directly below the lights and near the stove at the start of the brooding period. Later on these are moved to the front part of the room. No floor litter is needed beneath the feeding platforms. The use of wire covered platforms decreases the

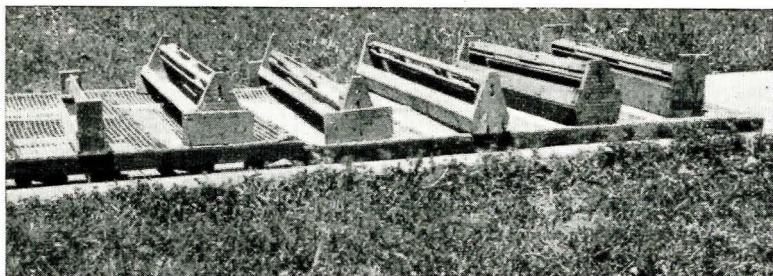


Fig. 3.—Chick feed is kept clean by using protected feed troughs upon wire platforms. Provide one trough two feet long for each 30 chicks.

amount of litter needed and prevents the chicks from eating feed from the floor and from scratching in litter that has been moistened from wasted water.

Chicks Will Roost at Early Age

Training roosts are placed along the sides and back part of the room to encourage chicks to roost at an early age. Such roosts as here illustrated elevate the chicks above the moist litter and when screened, keep the chicks away from their own filth. Training roosts are usually built 30 to 36 inches wide and long enough to fit into arrangements desired for the house. One-inch poultry netting is commonly used as the wire screen. Where a better wire is desired, muskrat wire could be used. Muskrat wire is made of No. 14 wire with spaces one inch by two inches. The cross ties are electrically welded. Such a wire makes a more substantial and easier cleaned training roost. To prevent chicks from getting caught, a two-inch space is left between the wire and the lower part of the roosts.

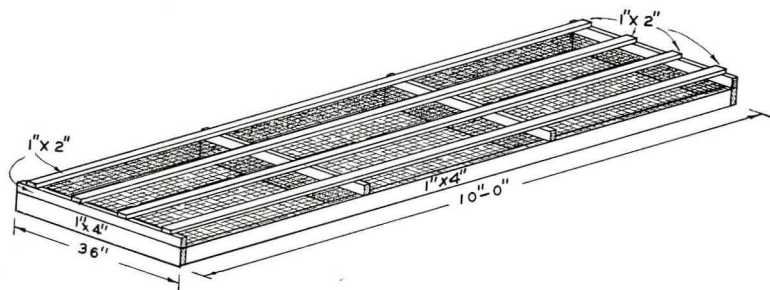


Fig. 4.—Roosts can be nailed on the wire covered frames. When placed in a slanting position around one edge of the building, chicks soon learn to use them. Preventing chicks access to their own droppings is considered good management.

Sun Parlor Has Many Advantages

The necessity of getting chicks out into direct sunshine is well realized. The hazard of brooding chicks around the main yards must also be considered. To provide the direct sunshine and to avoid the filth borne diseases, it is necessary

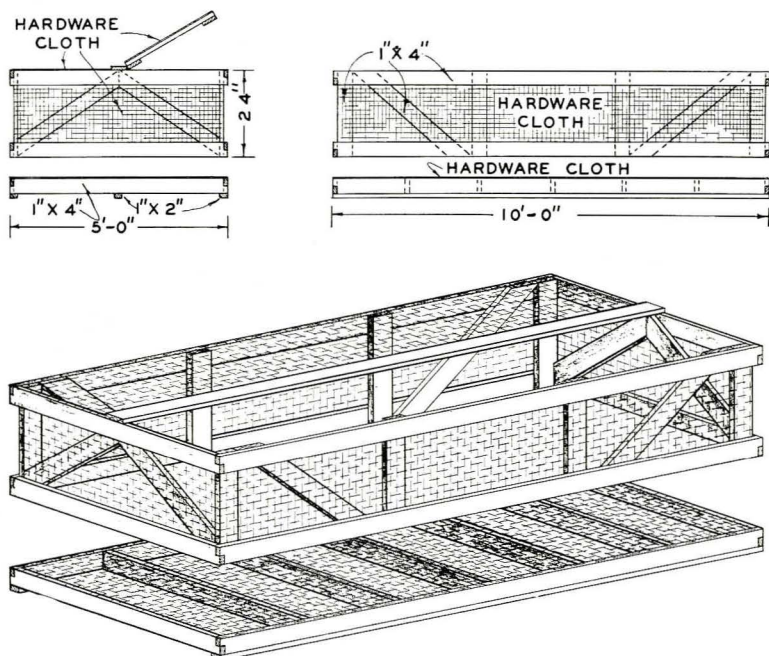


Fig. 5.—Detail of sun parlor construction.

to built sun parlors and sun porches. A cement slab at least four feet wide along the south side of the house is quite commonly used. The ordinary movable sun parlors can be placed on this cement. A sun porch that is wire covered and having a hardware cloth floor is also highly recommended by some commercial poultrymen. These sun porches can be built along the south, (east) or west end of the building. A shed roof type of shelter shed or any open front shed can be placed at the end of such a building and used as an additional sun room for growing chicks.

Several operators have been very successful in the use of battery brooders for the starting of chicks. When chicks are started in the battery brooders from two to three weeks time can be saved between the time one brood is removed from the house and a second brood started. If the first

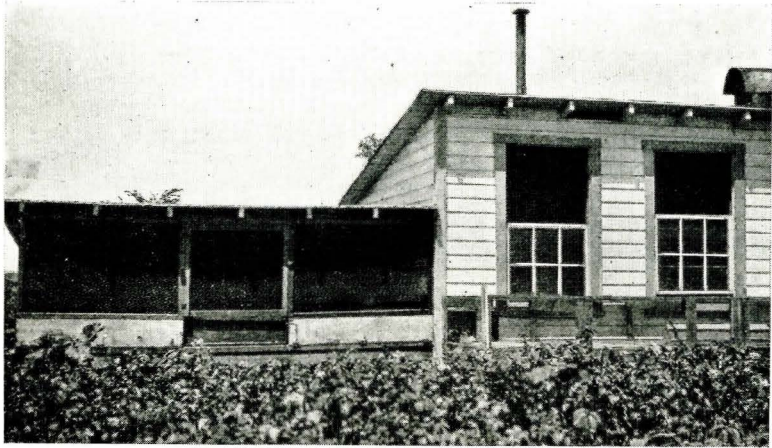


Fig. 6.—Narrow, open front, sheds attached to the ends of poultry houses provide direct sunshine during cold weather for hens or chicks.

brood is to be sold for broilers or moved to summer range when they are ten weeks old, then the second brood can be started in the battery when the first brood is 7 or 8 weeks old.

It is good management for the poultryman with 800-1000 hens to keep equipment working throughout the year. Usually he fills his houses to capacity with pullets during August and September or October. By February or March enough pullets have been culled so that at least one room of the laying house can be emptied and converted into a brooder room. The use of a 20 x 40 size house for this dual purpose will help to relieve the fire hazard of placing a brooder stove in the longer laying house. With this system the chicks can be kept confined to these quarters as described until the pullets are ten weeks of age, or old enough to be moved out onto clean range and into the summer shelter sheds. A second room can usually be made available where the cockerels can be separated from the pullets and held until they are ready to be sold as broilers. Where two or three broods of chicks are so started, the pullets from the last brood are ready for the summer range houses about the time the pullets from the earliest brood are beginning to show sex development and thus need to be brought back and placed in their laying quarters.

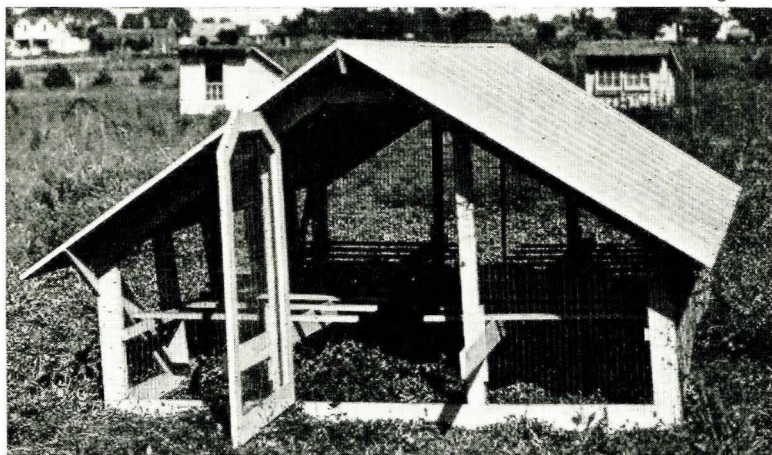


Fig. 7.—Summer shelter sheds are necessary equipment when pullets are moved to clean range.

Hot Water Brooding Systems

Permanent, large brooder houses or long laying houses that are being used as brooder houses are often heated by circulating hot water heating systems. These systems usually consist of a central heater or boiler and radiator pipes running along the north wall of the house throughout the entire length. Hovers of insulation board or other suitable material are installed just over the radiator pipes holding the temperature at about the proper point for brooding chicks, since both radiator pipes and hovers are about a foot from the floor.

If a hot water heating system is installed in a long laying house, some minor changes may be necessary. Any windows under the dropping boards will have to be covered to avoid drafts under the hovers, since the hovers will occupy the same position as the dropping boards formerly did. It may be desirable to divide the laying house rooms into smaller units, thus avoiding handling the chicks in flocks too large to do well. If the rooms are twenty feet long, they may be divided in two, using wire mesh for the partition.

In a standard Nebraska type house, with the door in the center of the south wall of each room, the partition will need to go to one side of the door. This makes one part of each room a little different from the other. In the room where the heater is placed, five feet is plenty of length to allow for heater and fuel, so the rest of the space can be used as chick brooding floor.

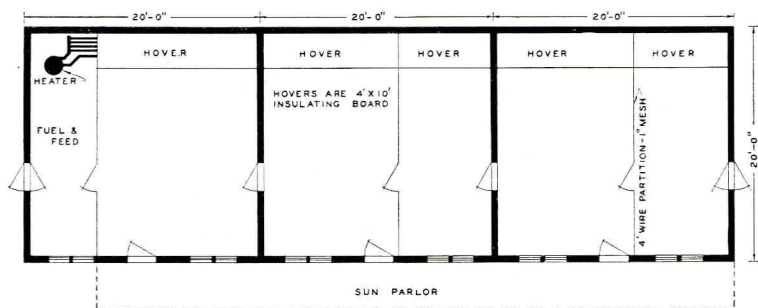


Fig. 8.—Detailed plan of hot water heating system.

Hot water heating systems can be purchased from a number of manufacturers and are divided into several classes.

1. **Pit Type.** Some systems require the boiler to be placed in a pit, the bottom of which is several feet below the floor to obtain water circulation. These systems operate with the water at atmospheric temperature, with the maximum water temperature of about 180° F.

2. **Floor Level Type.** The boiler is placed on the same level as the floor of the brooder space, with the pipes about a foot above the floor. To obtain water circulation, the system operates with the water at a pressure of 5 to 15 or more pounds. Because of the water being under pressure, the system operates at a water temperature of 200° to 240° F. Air relief valves must be installed in each end of the radiator system to permit the escape of air, especially just after the system has been filled with water.

Either type of system can be purchased equipped to use coal, natural or artificial gas, or fuel oil. Automatic brooder temperature regulating devices are usually regular equipment or can be supplied at small extra cost. Users of these systems invariably say that they would not attempt to operate the system by hand, after the regulating devices have been tried.

If the system is to be used with coal as fuel, attention must be paid to the draft of the chimney. A properly built chimney usually will hold a hard coal fire at least twelve hours between firings, but a poor chimney will make frequent firing necessary as well as produce uneven temperature.

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