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**COOPERATIVE EXTENSION WORK IN
AGRICULTURE AND HOME ECONOMICS**

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UNIVERSITY OF FLORIDA DIVISION OF AGRICULTURAL
EXTENSION, STATE COLLEGE FOR WOMEN AND UNITED STATES
DEPARTMENT OF AGRICULTURE COOPERATING
WILMON NEWELL, Director

**POULTRY HOUSES AND
EQUIPMENT**

BY N. R. MEHRHOF



Fig. 1.—A modern poultry farm, showing colony brooder houses

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POULTRY HOUSES AND EQUIPMENT

By N. R. MEHRHOF*

Supplying suitable environmental conditions is one of the most important features of poultry management. A suitable environment means the right kind of house, properly located. The construction of a good poultry house is an economical investment. Proper poultry housing is an important item in egg production and careful consideration should be given to it.

Conditions in Florida will vary so that every poultryman must use his own judgment when planning the details of his houses, but there are a few principles of construction which should be carefully considered in the building of all poultry houses.

METHODS OF HOUSING POULTRY

Poultry is generally housed according to the method of management, that is: colony, semi-colony, or intensive. These methods are employed with both baby chicks and laying stock.

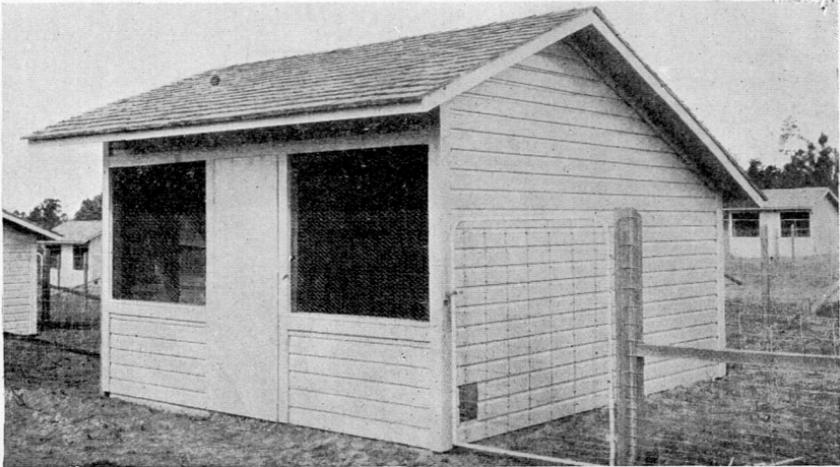


Fig. 2.—A two-thirds span laying house in use at the Florida National Egg-Laying Contest, Chipley. Size 12x14 feet.

The colony system is used when a relatively small number of chicks are to be brooded in one house, and also for small flocks of layers. Colony brooder houses are shown in Fig. 1.

*The author is indebted to a number of county agents and poultry raisers for valuable assistance rendered.

Colony houses are either stationary or portable. If they are of the latter type they should be constructed on skids so that they can be moved from place to place. Perhaps the most important advantage of this method is that there is less danger from disease. The disadvantages are that it increases building costs, labor, and management.

The intensive system (Fig. 12) is used when a large number of chicks or layers are to be housed in one house. The advantages of this system are that building costs are less and less labor is required. However, the disadvantage is that there is a greater opportunity for the spread of disease.

The semi-colony system is midway between the colony and intensive.

In this state we find all three methods employed and combinations of the three. The most prevalent methods employed appear to be the use of the colony method for brooding baby chicks and the semi-colony and intensive methods for managing the layers.

THE SITE FOR THE POULTRY HOUSE

Poultry houses should be located on well drained soil with a southern or southeastern slope. The soil should be suitable for producing green feed.

In the construction of the poultry house, thought and consideration should be given to its relationship to other buildings so as to save time and labor. Consider the nearness to other buildings, the central feed and water supply.

In constructing poultry houses, bear in mind the future development of the flock.

Wherever possible, poultry houses should be so located that the land in front and rear can be cropped. The growing of greens and cropping helps to keep the yards sanitary.

Trees in the yards are valuable for furnishing shade for the birds.

TYPES OF HOUSES

The types of houses that are being used most extensively in the state are either shed-roof or even-span.

The house should be relatively deep. Narrow houses are costly, and at the same time are undesirable because good ventilation is almost impossible without causing direct drafts to blow over the birds.

The depth of the house will be greatly influenced by the width. The more nearly square the house is, the lower the building cost will be.

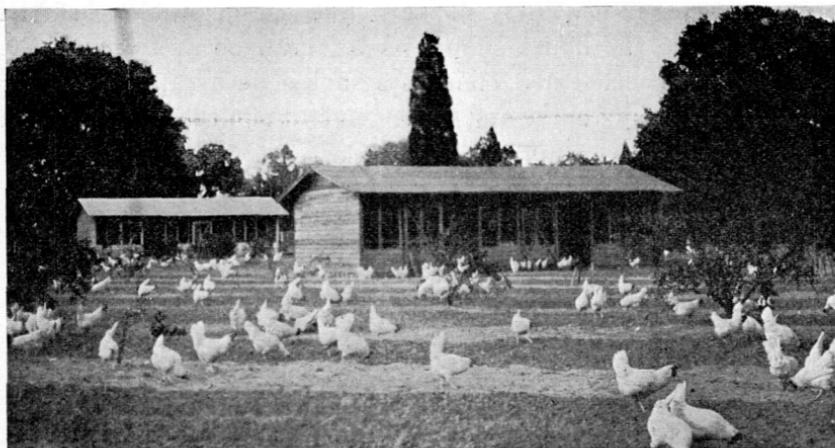


Fig. 3.—Even-span laying houses 18'x32' with capacity of 250 hens.
(Duval County)

The front of the house should be high enough to allow the sunlight to penetrate into the interior. Sunshine is a good disinfectant.

In deep houses it is desirable to have light underneath the dropping boards. This can be furnished by having windows in the rear of the house underneath the dropping boards.

POULTRY HOUSE ESSENTIALS

In the construction of a poultry house, the following features should be considered: (1) economy, (2) convenience, (3) ventilation, (4) protection from heat and cold, (5) protection from vermin, (6) sanitation, (7) sunlight, (8) sufficient space for fowls, (9) dryness.

Economy in building poultry houses is very important. However, it does not pay to use a poor grade of lumber. Use only sound lumber. We must consider the lasting qualities in figuring on economy. Poultrymen in the state are using both dressed and rough lumber for construction. It is advisable, however, to use dressed lumber for the dropping boards, nests, and perches. This will allow an easier control of lice and mites and permit the dropping boards to be kept more sanitary.

Construct houses as plain as possible. Fancy trimmings and unnecessary furnishings do not increase efficiency. They retard economy.

Convenience in a poultry house is likewise desirable. All the fixtures inside the house should be so arranged as to make the work easy and efficient. The nests should be arranged so that the hens can easily enter and the attendant can remove the eggs.

The perch poles should be removable.

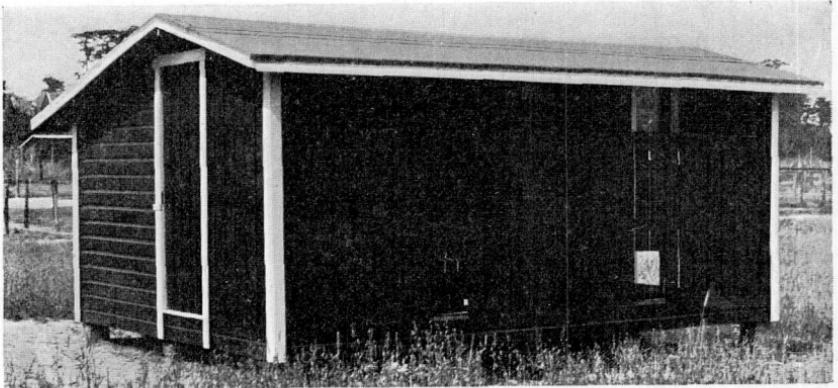


Fig. 4.—Permanent laying house used by the College of Agriculture at Gainesville. 12'x16', capacity, 100 hens.

Ventilation—Poultry can stand and need plenty of fresh air, but it should not be in the form of a draft. An open front house with ventilators at the rear provides a sufficiency of ventilation and protection.

These ventilators when placed above the perches should be high enough to be sure that the birds are not in drafts, or below the dropping boards, or both.

Drafts directly on the birds are conducive to colds and roup. A house that is poorly ventilated is damp, close, and unhealthy for poultry.

Protection from heat and cold is another factor for consideration. The house should be constructed so that heated and impure air may escape. With brooder houses, muslin curtains should be available for protection.

Shade should be provided in the yard so that the birds may be more comfortable during the heat of the day.

Rats and mice should be kept out. Cement floors or wooden floors high enough off the ground to prevent hiding places will keep the vermin out. If rats and mice are present, covers should be provided for the mash hoppers.

Sanitation is essential for success with poultry. Construct the dropping boards so that they may be easily and thoroughly cleaned. Matched lumber is desirable so as to prevent the droppings from going through the cracks to the floor. Sprinkling a small amount of sand on the dropping boards will make them much easier to clean.

Keep the water and mash hoppers clean and sanitary.

Properly constructed floors will assist in keeping the house sanitary.

Sunlight in the poultry house is a good disinfectant. The house should be constructed so that plenty of sunshine will enter. This is secured by facing it to the south or southeast.

Sufficient Space.—Poultry should have ample room in the house. It is advisable to provide plenty of roosting space and floor space to obtain the best results. In Florida, poultrymen are allowing from 2 to 4 square feet of floor space per bird, depending on the breed and method of management. From 8 to 10 inches roosting space is ample.

Dryness in a poultry house is desirable if the health of the fowls is to be preserved. Damp houses favor the development of roup, pneumonia, and other diseases.

If we provide an abundance of ventilation, plenty of water drainage away from the house, and properly constructed floors, the poultry house should be dry.

FLOORS

The essential features of a good floor are: (1) dryness, (2) smooth, hard surface which can be easily cleaned, (3) proof against rats and mice, (4) economy of construction.

Floors should be so constructed that they are higher than the outside ground.

The three types of floors used are:

1. Cement or concrete—permanent, sanitary and easy to clean.

2. Wood—use tongue and groove lumber and have it off the ground.

3. Dirt.—Used in some places but not as satisfactory as either the wood or concrete. If a dirt floor is used it is advisable to remove six inches of the surface material about every six months and replace with fresh dirt. Avoid using sand, as it soon becomes a good breeding place for fleas.

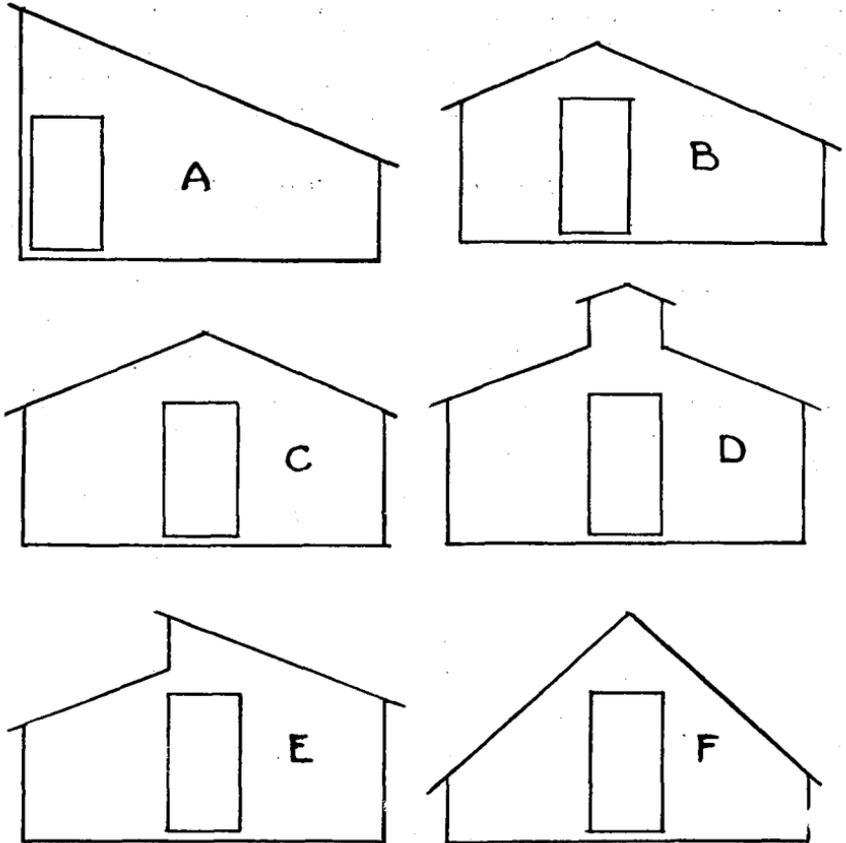


Fig. 5.—Types of roofs for poultry houses. A, shed roof; B, two-thirds span; C, even span; D, monitor; E, semi-monitor; F, A-shaped.

TYPES OF ROOFS

Several types of roofs are being used on poultry houses. Careful consideration should be given this feature of construction, for it is one of the most expensive. The type of roof will affect the building cost. The roofs should be constructed so that they are water-tight.

The two most common types in use in Florida are the shed-roof and even-span type.

Fig. 5 shows the various types of roofs used.

POULTRY HOUSE EQUIPMENT

Dropping boards should be constructed of tongue and groove material. The boards should be laid from front to rear to facilitate cleaning. The boards should be horizontal and parallel with the floor. They should be about $2\frac{1}{2}$ to 3 feet off the ground, and should extend 9 to 12 inches beyond the front and back roosts.

Roosts.—Roost poles should be provided for the hens. They should be placed on the same level (horizontal) to prevent the birds from crowding to the top poles. Lumber 2"x2" or 2"x3" should be used with the sharp corners rounded. These roosts are generally placed 6 inches above the dropping boards and are supported either by wires from the roof or by a frame resting on the dropping boards. In the latter case, it is well to use hinges so as to raise the perches when cleaning the dropping boards. (Fig. 17.) From 8 to 10 linear inches are allowed per bird for roosting space. The roosts are placed 12 to 16 inches apart. Wire may be stretched below the roosts to collect any eggs that may be dropped and to keep the hens out of the droppings in order to promote health and cleanliness.

Nests should be conveniently located for the caretaker and hens, economically constructed, and easily cleaned. They can be located under the dropping boards or on the side wall. For Leghorns and other light breeds, nests 12"x12", and for Rhode Island Reds and other heavy breeds, nests 12"x14", are of sufficient size. The nests should be 15 inches high and the front edge board 3 to 4 inches high. Plenty of nests should be available for the birds. One nest for every four to eight hens is sufficient.

In constructing nests, the bottoms are of either wood or wire. When single tiers of nests are used $\frac{1}{2}$ " mesh hardware cloth (fine wire) may be used for the bottom. This permits more circulation of air and allows droppings and trash to be scratched through the wire netting. This helps to keep the nest clean.

A sloping roof over the nests will keep the hens from roosting on top and hinged jump boards in front may be closed to keep hens out of nest at night.

Some poultrymen are using orange boxes and egg crates as nests.

Trapnests are the only sure way of telling what the hens will do. Working plans of a suitable trapnest are shown in Fig. 6.

the nest; and two $\frac{1}{2}$ -inch boards 10 inches wide and 10 feet long for the top, back, bottom, and front rail of the nest. If wire is used on top of the nest an equal number of square feet of $\frac{1}{2}$ -inch lumber can be subtracted from the amount stated.

Nail the top, back, and bottom to the ends and partitions (see Fig. 6), insert the 3-inch strips in the nests, and make the guard (b), nailing it to the left side of the nest. Bore a hole in the catch (a) large enough so that the catch will move freely when screwed into position on the side, and use a washer on both sides of the catch. The catch should be made of hardwood, so that it will not wear readily around the screw which holds it in place. The catch is made of material $\frac{1}{2}$ -inch thick and is $1\frac{1}{2}$ inches wide at the upper end and $\frac{3}{4}$ -inch wide at the lower end. Place a screw at the lower edge of the catch to stop it when set, so that the catch will just hold the door.

Make the doors (c) of $\frac{7}{8}$ -inch material, 12"x6", and cut a triangular notch in the center 4 inches wide. Put two screw eyes in the top of the doors and bore holes in the front of the nests 2 inches below the top (inside measurement), through which a 3-16-inch wire is run to support the door.

Attach a narrow strip to the front of the nests for the hens to jump upon when entering the nests. Place a button or block of wood on the front of each partition to hold the door when the nest is closed.

If the nests are to be placed directly below the dropping board, a wire top should be used on the nest, except for a 5-inch strip of wood on the front edge of the top to stiffen the nest.

SOME NEEDED EQUIPMENT

The water fountain is a fixture to which careful consideration should be given. It should be so constructed that it can be easily cleaned and disinfected, is easily accessible for the poultry, and is protected from contamination. Water jars should be placed on stands near the mash hopper.

To make the feeding of the flock less burdensome, it is advisable to keep mash, oyster shell, charcoal, grit, and water before the birds at all times.

Mash Hoppers are essential in all phases of poultry management. They should be constructed so as to be clean and sanitary, and non-wasting. Some poultrymen prefer the open type while others like the force feed type. Fig. 7 shows a home-made range



Fig. 7.—Mash hopper for use out in open

hopper which is giving satisfaction. It is desirable to have the mash hoppers off the ground at least 18 inches. If any of the mash hoppers are to be left outdoors they should be so constructed as to keep out the rain.

Oyster shell and grit hopper

should be provided. Fig. 8 shows a suitable type of hopper which will hold large amounts of grit and oyster shell. This material should be kept before the laying and growing stock all of the time.

BILL OF MATERIAL (Figure 8)

- 1 pc. 1"x12"x14'—backs, ends, partitions and fronts.
- 1 pc. 1"x8"x6'—top and front of trough.
- 1 pr. 2" butt hinges.

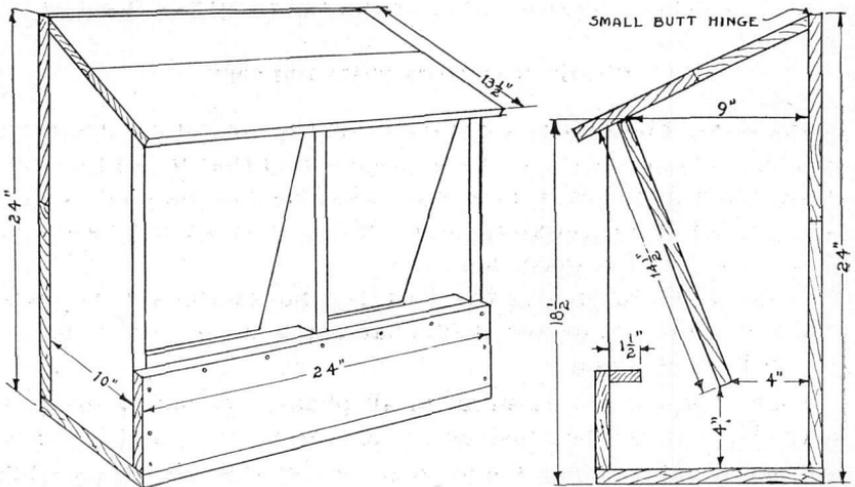


Fig. 8.—Oyster shell and grit hopper.

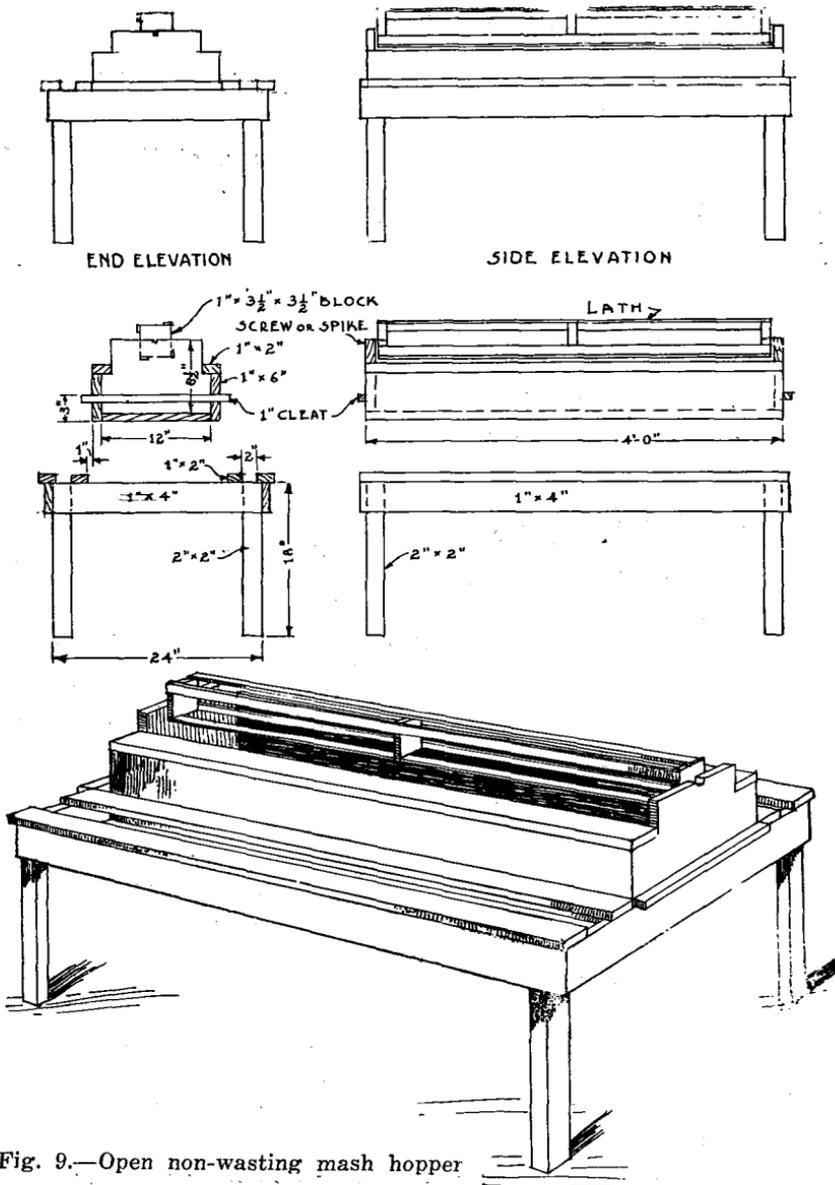


Fig. 9.—Open non-wasting mash hopper

DRY MASH FEEDER

BILL OF MATERIAL (Figure 9)

- | | | |
|---------------|----------------|-------------------------|
| 4—2"x2"x18". | 2—1"x6"x4". | 3—1"3/2"x3/2". |
| 2—1"x2"x24". | 1—1"x12"x4'. | 4—plaster lath. |
| 2—1"x4"x4'2". | 2—1"x12"x8'6". | 2—2 1/2" No. 10 screws. |
| 6—1"x2"x4'2". | 2—1"x1"x18". | 1/2 Lb. 6d. box nails. |

BROODER HOUSES

Well constructed brooder houses are essential in raising and managing baby chicks.

Brooder houses are generally of two types, stationary and portable. The average size is 10'x12' to 12'x14'.

A concrete or cement floor is desirable for a stationary house while a wooden floor, using tongue and groove lumber, is desirable for a portable house.

Portable houses should be constructed on skids or runners.

The walls should be tightly constructed, using drop siding or tongue and groove material. Some poultrymen are using rough lumber and ceiling the cracks.

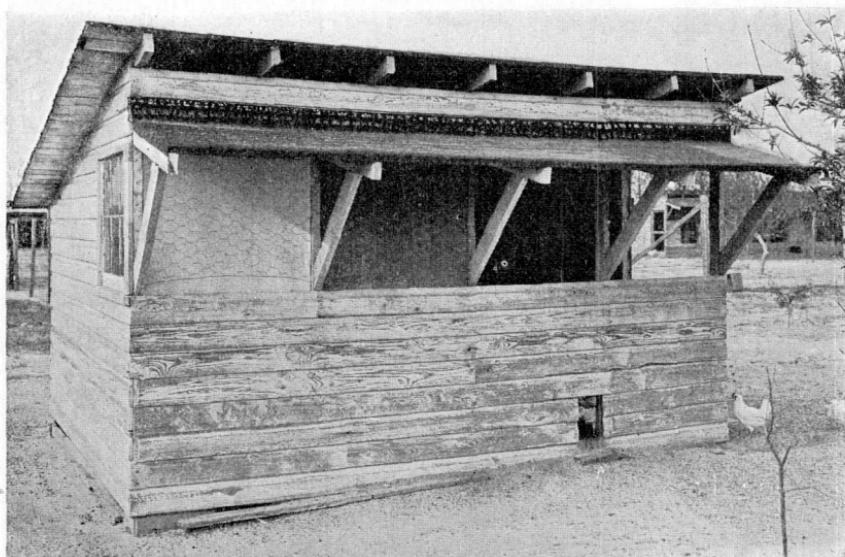


Fig. 10.—Brooder house, 10'x12', capacity 250 or 300 chicks

The roof should be made waterproof, using either roofing paper or shingles.

Ventilation in the brooder house can be secured by having an opening in the front of the house. The opening will vary with the brooder house. Windows in the front will help in furnishing light and ventilation.

A ventilator in the rear of the house near the plate is also desirable and can be opened or closed depending on weather conditions and age of chicks.

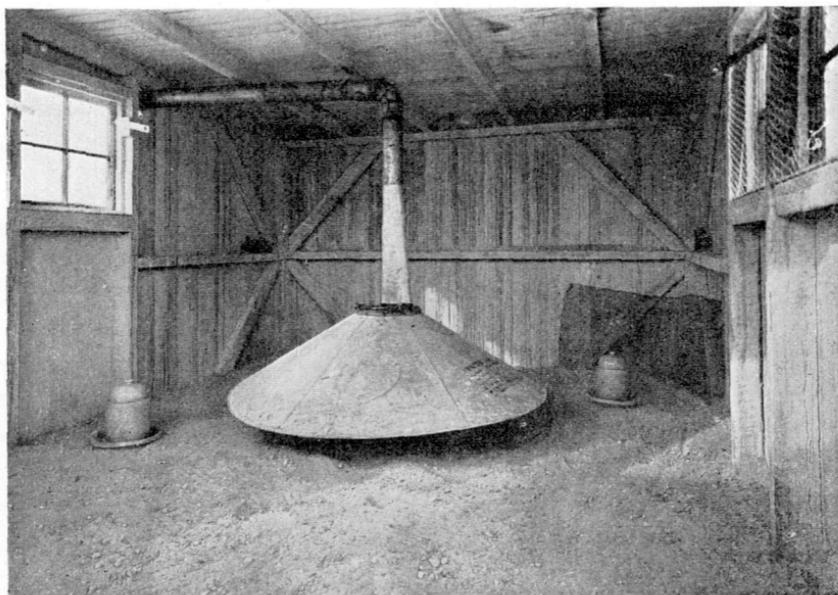


Fig. 11.—Interior of brooder house. (Courtesy U. S. D. A.)

LAYING HOUSES

Laying houses should be constructed on the same plan as the brooder houses. Small portable houses should be placed on runners so that they can be moved from place to place.

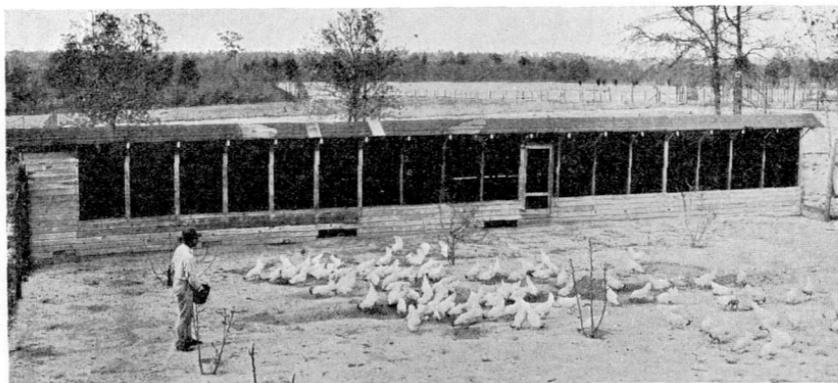


Fig. 12.—A long, open-front, shed-roof laying house with drip. This house, which is of the intensive type, is 16'x60' and has a capacity of about 400 hens. (Walton County.)

The floors in the laying house may be dirt, wood, or cement or concrete. Wood or concrete floors are better.

Laying houses do not need to have any glass in front. They are generally open front. Some have a 4-foot opening while others have the entire front open.

This will allow plenty of sunshine and ventilation for the house. Ventilators should be placed in the rear of the house just under the plate or under the dropping boards or both.

The sides of the house should be tightly constructed so as to prevent any drafts on the birds. In central and northern Florida the houses are constructed more tightly than in southern Florida. An abundance of fresh air in poultry houses is essential.

BUILDING SUGGESTIONS

The following suggestions are given to assist in the construction of a poultry house.

Suggested Dimensions of Shed-Roof Type Poultry Houses.

Depth, Ft.	Length, Ft.	Height in Feet	
		Front	Rear
12	10	7 -7½	4½-5
14	12	7½-8	5 -5½
16	16	8 -8½	5 -5½
20	20	8½-9	5 -5½

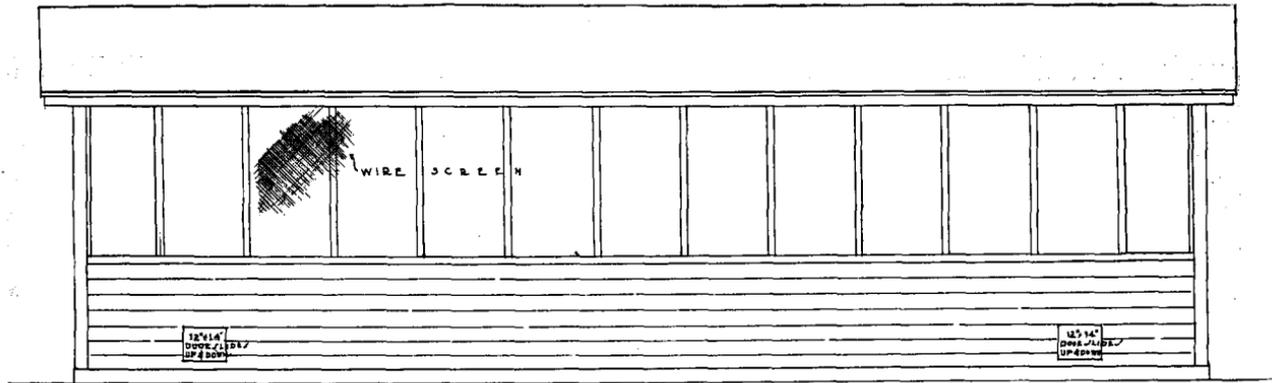
Overhangs or drips are suggested on shed-roof type houses. The drip should be 2 feet to 2½ feet at an angle of 45°. (See Figs. 12 and 16.)

Even span houses are constructed so as to have a front and rear height of 7 to 8 feet and the peak 10 feet. The depth ranges from 16 to 18 feet and the length from 32 to 48 feet.

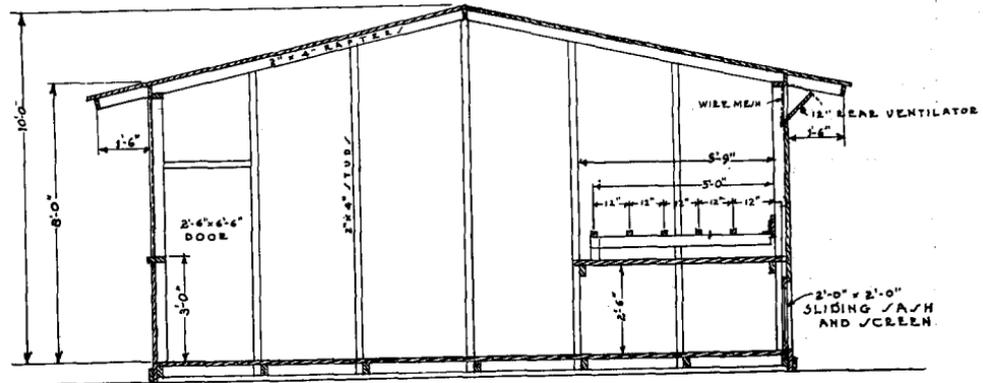
The fronts are boarded up 2½ to 3 feet and the remainder screened with wire.

Rear ventilators just below the plate are 6 to 12 inches wide and hinged. Ventilators under the dropping boards are furnished by means of glass windows 2'x2' which can be slid back and forth and 1-inch mesh wire is also used. Openings in either end of the even-span house near the peak are sometimes found to secure greater ventilation.

When a wooden floor is used the house should be erected off the ground about 10 to 18 inches.

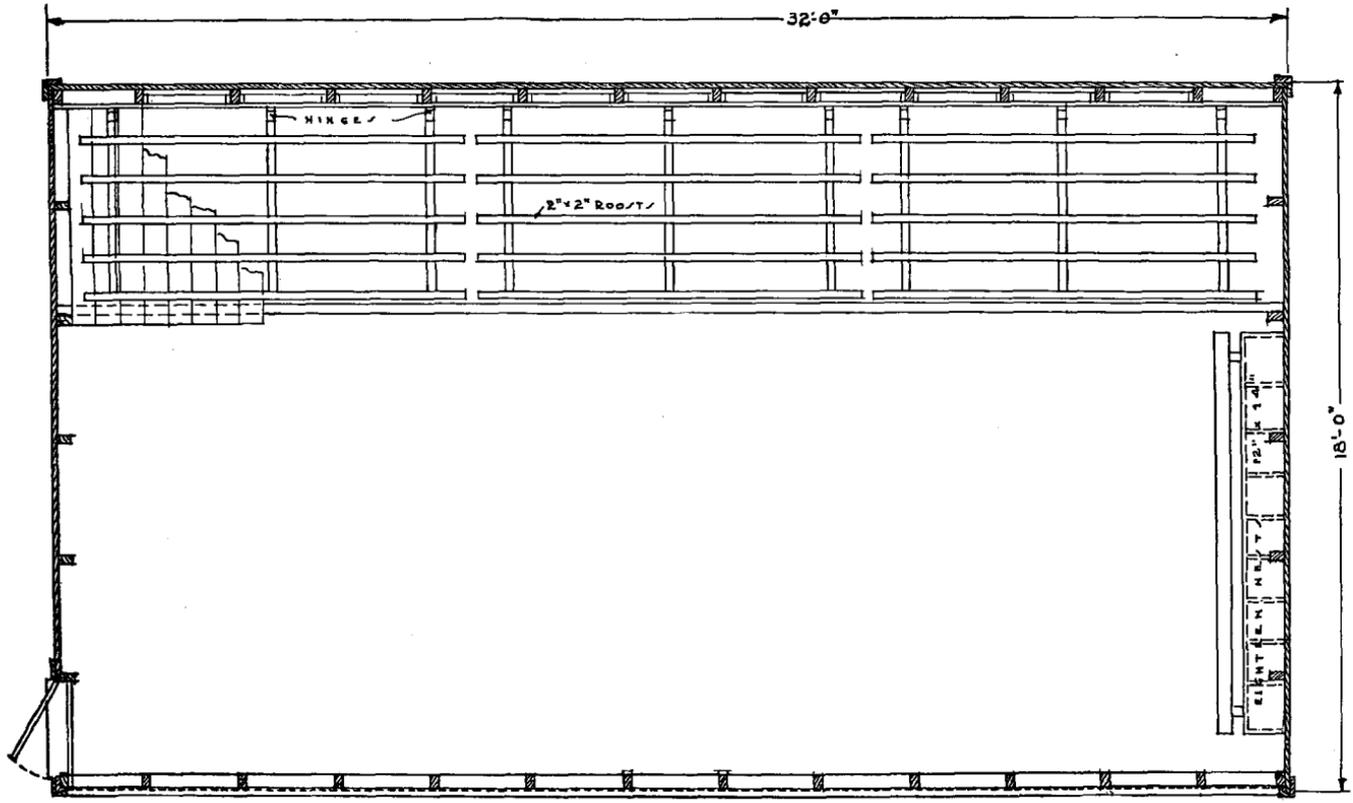


FRONT ELEVATION



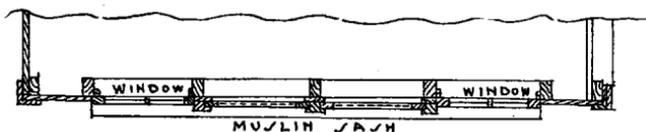
TRANSVERSE SECTION

Fig. 13.—Plans for 18'x32' even-span laying house. (See Fig. 14.)

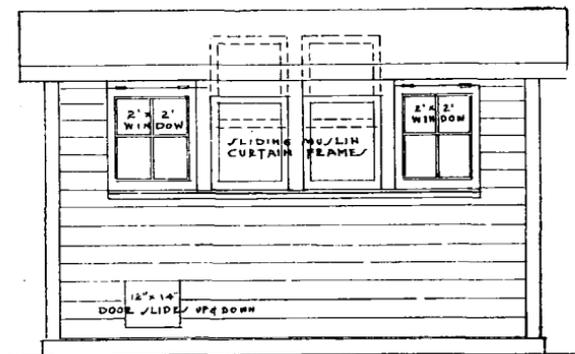


FLOOR PLAN

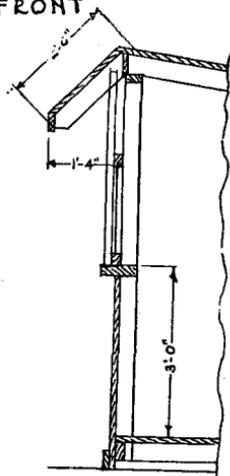
Fig. 14.—Floor plans for 18'x32' even-span laying house.



FLOOR PLAN FOR SASH FRONT
TYPE I

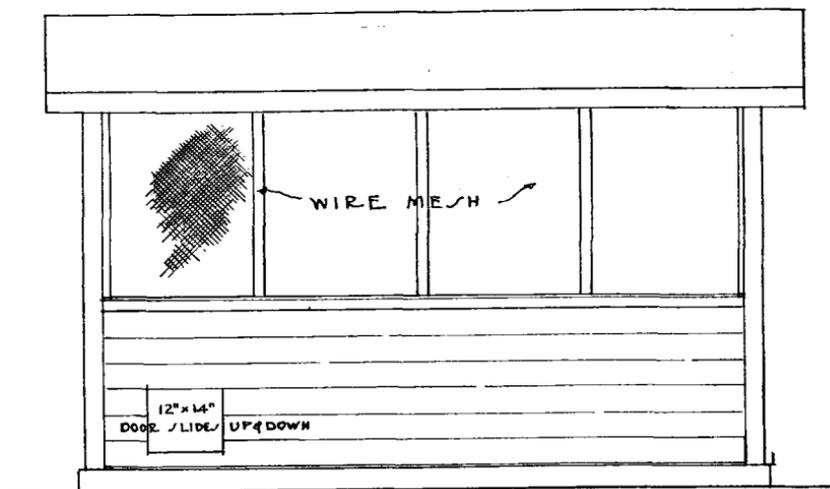


FRONT ELEVATION
TYPE I
BROODER HOUSE



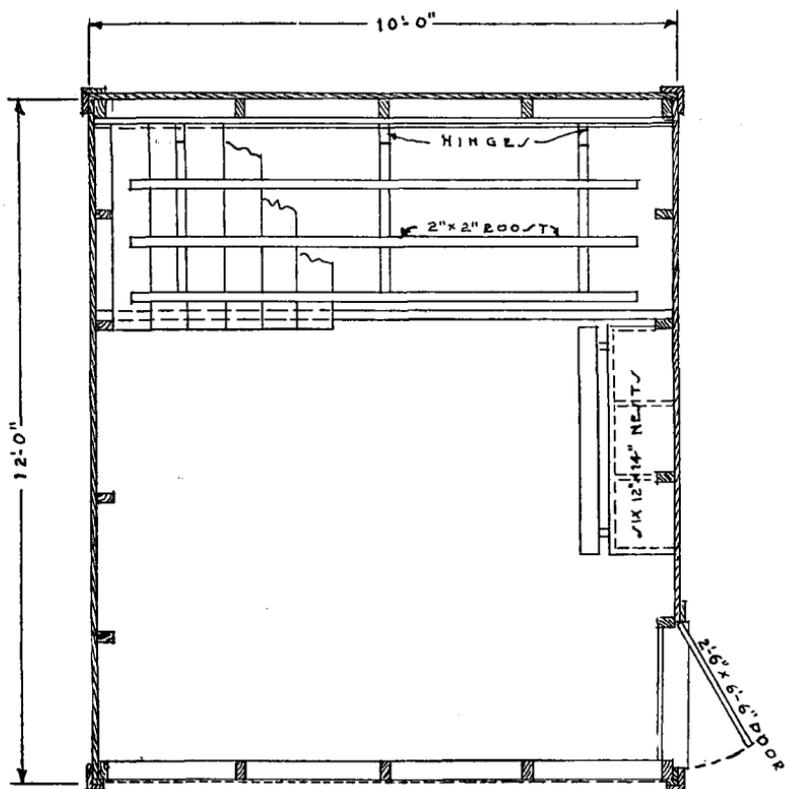
SECTION FOR
SASH FRONT
BROODER HOUSE

Fig. 15.—Plans for 10'x12' brooder house.

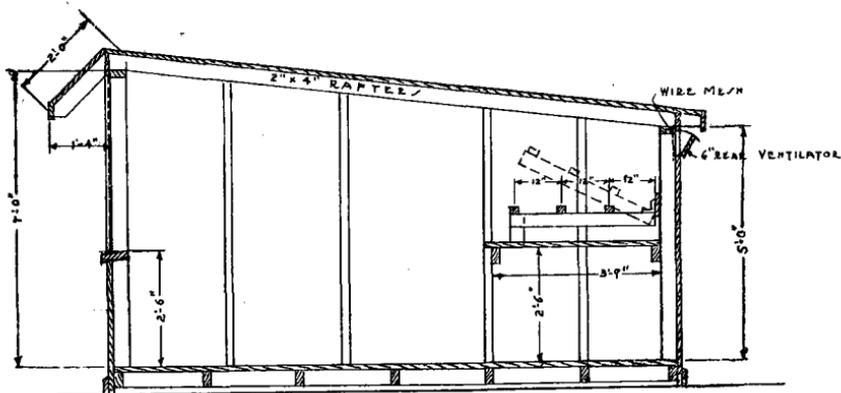


TYPE II

Fig. 16.—Front plans for 10'x12' shed-roof laying house with drip.
(See Fig. 17)



FLOOR PLAN
TYPE II



TRANSVERSE SECTION
LAYING HOUSE

Fig. 17.—Plans for shed roof laying house, 10'x12', with drip. (See Fig. 16)