Laying Houses for Michigan
Michigan State University Extension Service
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Issued December 1941
28 pages

EXTENSION
BULLETIN
233

DECEMBER
1941

LAYING HOUSES *for* MICHIGAN

By J. M. Moore and A. J. Bell

MICHIGAN STATE COLLEGE :: EXTENSION DIVISION
EAST LANSING

Michigan State College of Agriculture and Applied Science and U. S. Dept. of Agriculture co-operating, R. J. BALDWIN, DIRECTOR EXTENSION DIVISION, Michigan State College, East Lansing. Printed and distributed under acts of Congress, May 8 and June 30, 1914.

LAYING HOUSES FOR MICHIGAN

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The average hen of today in commercial farm flocks annually lays 4 dozen eggs more than did her ancestor of 20 years ago. Much of this increase has been due to increased egg production during the winter months. Steady production during this season has helped to raise the average egg production in the United States. Michigan is one of the most northerly of the North Central States, a section that produces 50 per cent of the total national egg crop. Laying flocks in Michigan need the protection of an adequate laying house during winter months in order that their production will not be impaired.

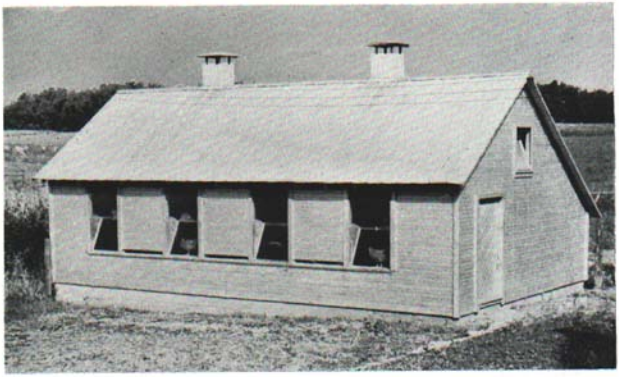


Fig. 1. A ⅓, ⅔ span 20′ x 30′ straw loft house.

The demand for eggs of known quality has increased rapidly. To meet this demand, many poultry farmers are keeping their laying flocks confined during the entire year in an attempt to assure eggs of uniform interior quality in summer as well as in winter. Use of the laying house during the hot summer months requires that the house must be cool in summer as well as comfortable in winter.

"30 LAYING HENS OR 300"

The person who plans to build a laying house should answer at least one question: "Is the poultry flock planned to supply only the family needs or is it to provide a portion of the farm income from the sale of eggs and poultry meat?"

Eggs lose their quality rapidly and should be marketed as quickly as possible. A flock of 30 to 60 laying hens will supply eggs and an occasional chicken dinner for the average farm family. A flock of 200 to 400 laying hens will produce enough eggs so that at least two cases can be marketed weekly. These eggs will be usually of a higher quality than those produced by a small flock where 10 to 14 days are required to fill one 30-dozen case.

The owner of the larger flock knows he has sufficient investment to justify him in giving time and attention to obtain satisfactory results. The small flock is often neglected, the eggs are gathered at irregular intervals, little attention is given to the production of clean eggs and, as a result, a lower price is received for them.

The poultry business is highly competitive and the margin of profit is narrow. In order to derive a profit from this branch of the farm business, a satisfactory winter egg production must be obtained. No flock can be expected to lay profitably unless sheltered in a satisfactory laying house. The house should be:

(1) Economical to construct,
(2) Insulated,
(3) Ventilated,
(4) Dry,
(5) Adequately lighted,
(6) Operated with a minimum of labor,
(7) Easily kept clean.

A satisfactory laying house will be one in which the birds will be comfortable.

ECONOMY IN CONSTRUCTION

The cost of the laying house has had more to do with changes in its design during the last 10 years than any other factor. The cost of a poultry house may vary according to the locality and the type of material used; yet the trend in poultry house construction has been to build them wider and, in many cases, more than one story high for the sake of economy.

Though one of the most important factors in designing the laying house is cost, that does not mean the house should be cheaply built. The laying house is planned to provide each bird (of the small breeds) with 3½ square feet of floor space and each bird of the general-purpose breeds (such as "Rocks," "Reds," and "Wyandottes") with 4 square feet of floor space. The maximum amount of floor space with a minimum of wall space is one of the main reasons for the economy of

Fig. 2. A southwest view of the 36' x 36' two-story laminated-rafter type laying house. The stairs to the second story are on the east side of the building.

the wide house, compared with the long, narrow type. The wide house also holds a more uniform temperature and is not as drafty as the longer, narrower type.

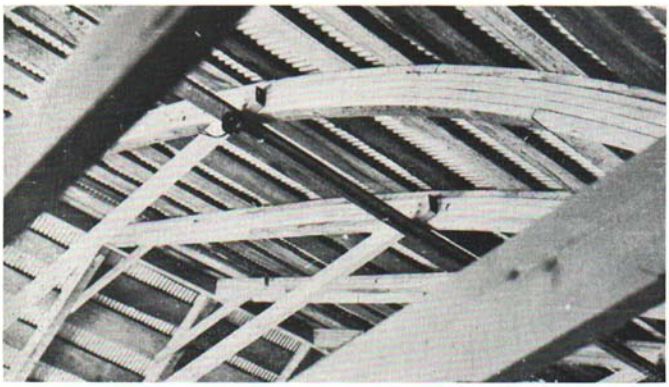


Fig. 3. Looking upward at the laminated rafters of a two-story laying house during construction.

INSULATION

Insulation is any material which retards the passage of heat. A well-insulated laying house should be reasonably warm in the winter and cool in the summer, provided the ventilation is adequate. Owing to variations in daily and seasonal temperature, some means must be provided to prevent sudden changes within the building. Slow, gradual changes seem to have little or no effect on egg production but sudden changes may cause a decided slump.

Insulation aids in keeping the laying house dry. Dampness is usually caused by the condensation of moisture on the cold floor, wall or ceiling. When moist warm air comes in contact with a cold surface the moisture condenses. This is one important reason for wet laying houses during the winter months.

Several forms of insulation are available—such as, (1) board, (2) fill, (3) bat, (4) reflector. The board type comes in sheets 4 feet wide and in varying lengths. The fill type is poured in the space between the studding. The bat type is nailed between the studding, and the reflector type is nailed to the studs.

When fill insulation is used, waterproof paper should be placed on the inside of the studding before the sheathing is applied. This is to prevent moisture from entering the insulation.

Insulation Values

Insulation need not be expensive. The cost will be returned in a few years by the saving in litter, labor, and by the increased egg production during changeable cold weather and during hot weather.

Thin, dry, soft wood shavings packed tightly are very satisfactory. When shavings are not available, coarsely ground corncobs may be substituted. One-fourth pound of hydrated lime should be added to each bushel of shavings or ground cobs to help in retarding deterioration and prevent rats and mice from working in them.

When commercial insulation board is used, it should be protected

Fig. 4. A 30′ x 210′ laying house which has a 10-foot feed room in the center making a pen on each side 30′ x 100′ feet. This laying house houses 3,000 Leghorns, is well-insulated with heavy insulation board and is covered with a built-up roof.

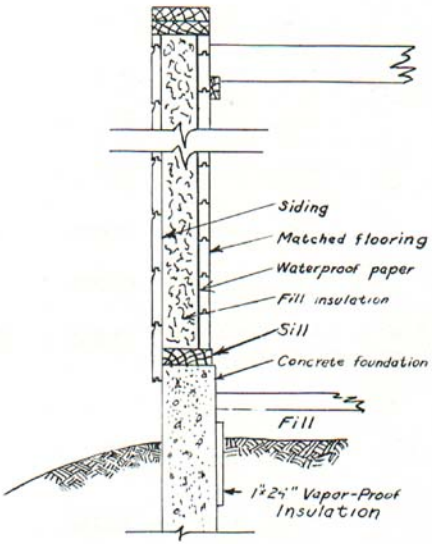


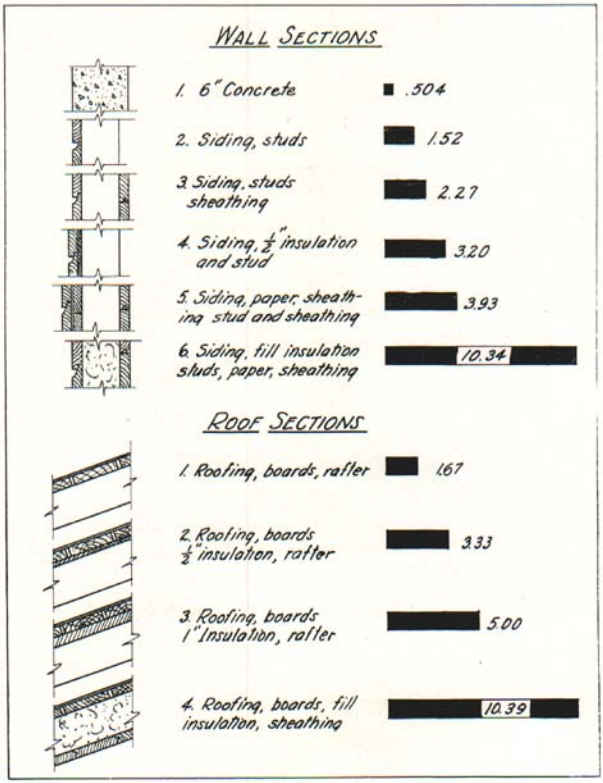
Fig. 5. The proper use of fill insulation.

by plywood, shiplap or some such material so that the birds will not eat it.

VENTILATION

Ventilation of a laying house is bringing fresh air into the house and taking the foul air out, without producing a direct draft on the birds. Birds in their wild state roosted in trees. There they had an abundance of fresh air at all times. They still require a good supply. Birds give off large amounts of moisture in their breathing and in the droppings. Accumulation of this moisture causes damp litter, walls and ceilings unless the moisture can be controlled by retaining it in the air until it can be removed by ventilation.

A cubic foot of warm air can hold more moisture than an equal amount of cold air. Air at 50° F. can hold 10 times as much moisture as air at 0° F. When cool air enters the house it is warmed by the heat given off by the birds. The warm air expands and rises. When it comes in contact with a cold surface, it immediately contracts and the mois-



(This information based on data furnished by U. S. Department of Commerce.)

Fig. 6. This chart shows the insulation of different types of wall and roof sections. The higher the value, the better the insulation.

ture which it has picked up condenses in fine drops. These small drops merge into larger drops which drip from the ceiling or run down the walls. An adequate ventilation system should carry air out of the house before it can cool and the moisture condense. The roof and walls should be kept warm with insulation.

Birds give off some heat which tends to raise the temperature in the building, causing a circulation of air. The more birds the more heat, which results in a more complete circulation of air and a more rapid removal of moisture. A house filled to capacity is usually warmer and dryer than a house partially filled.

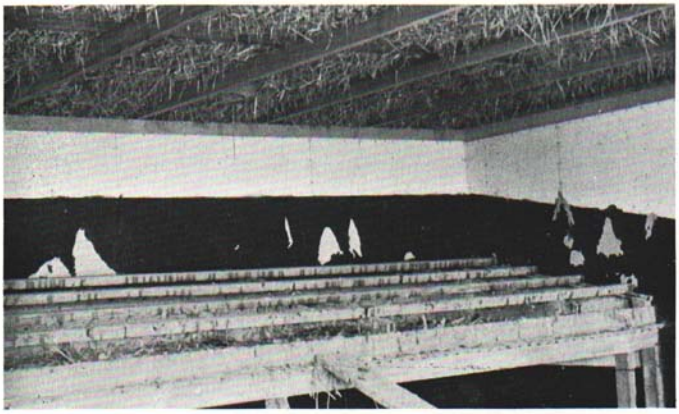


Fig. 7. This poultryman painted his insulation board carefully with asphalt paint. However, the birds managed to pick through the paint to the insulation board. Unless immediate steps are taken to control this picking, the insulation board ultimately will be totally destroyed. Plywood ¼" thick or ½" sheathing placed over the insulation board would be one solution to this problem.

Fig. 8. This house was a one-story shed-roof type laying house. When the roof had to be replaced, the owner, needing more laying house space, built a second story. The top story has a straw loft, the lower story is ventilated with windows. The entire house is well-insulated.

VENTILATION OF SHED ROOF HOUSE

Two types of ventilating systems used with the shed roof house are shown in Figs. 9 and 10.

In Fig. 9, the fresh air enters the intakes on the front, rises at least 4 feet between the studding and enters the building near the roof. It then drops toward the floor, circulates around the building, picking up moisture and foul air and escapes through the central flue. Fresh air may also be taken in through the open windows.

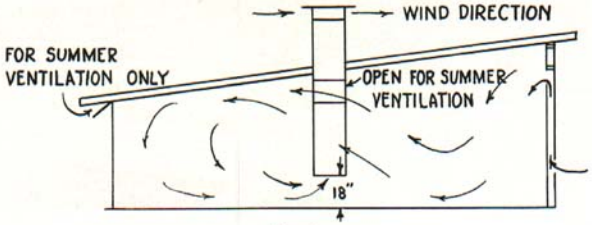


Fig. 9.

The outtake flue is insulated, especially that portion which projects above the roof. A damper may be placed in the outlet flue to regulate the amount of air being exhausted from the building. In this type of ventilation the movement of air in the house will depend to a large extent on the air currents (wind) outside the house. During the winter when humidity is high there is often little air movement to aid this type of ventilation.

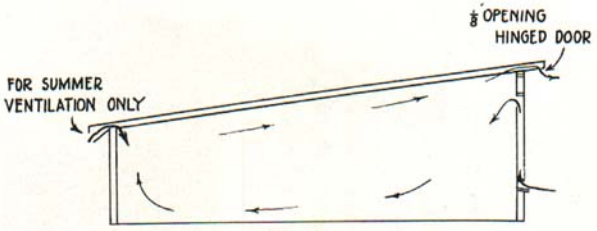


Fig. 10.

In Fig. 10 the air enters the building the same as in Fig. 9. It drops to the floor, flows along the floor to the rear, then rises and moves along the roof to the front where it leaves through an adjustable opening between the plate and the roof. During this process it takes up moisture and carries it out of the building. The trap doors on the outside have an ⅛-inch opening when closed to allow a small flow of air at all times.

Hinged doors are also placed on the underside of the rafter projection at the rear for the summer ventilation in both Figs. 9 and 10.

VENTILATION OF STRAW LOFT HOUSE

The straw loft house affords economical ceiling insulation. The straw loft also helps keep the laying house dry. During cold periods in the winter when the moisture-laden air passes slowly through the straw, it becomes chilled and when near the surface of the straw squeezes out much of the moisture it held before passing out through the louvers. The straw acts as a sponge to pick up this moisture in cold weather and later allows it to escape when the weather moderates.

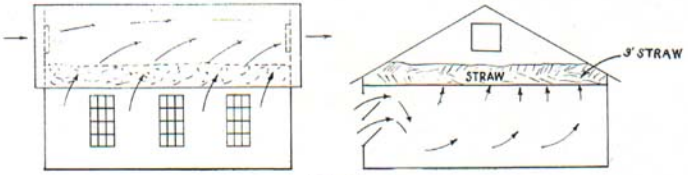


Fig. 11.

It should be emphasized that no straw loft can work satisfactorily when all the windows or louvers are kept **closed.**

The main complaint regarding this type of house is that the straw becomes dusty and that it makes an ideal place to harbor rats. To control rats, one-inch diamond-mesh poultry netting should be used

Fig. 12. A gable-type 20' x 40' straw loft house.

to support the loft. The mesh may be attached to the walls, as shown in Fig. 13, in such a way that rats cannot get from feed hoppers to loft and *vice versa*. It is the feed that attracts the rats. Make it impossible to reach it and they will lose interest.

The wire may be stretched on frames and attached to the bottom of the ceiling supports in such a way to permit quick and easy removal to facilitate changing of the straw.

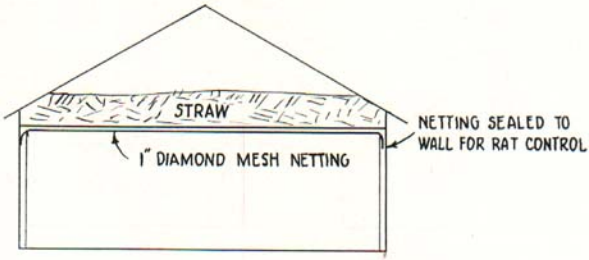


Fig. 13.

DRYNESS

Several factors influence the moisture conditions in the poultry house, namely: location, insulation, ventilation, floor construction, per cent production, and the number and age of the birds housed. The laying house should be located on a well-drained site and if possible not too close to larger buildings or trees.

Floor construction probably has as much to do with dryness as any other one thing. A cold floor causes condensation of moisture which results in wet litter. For best results, the floor should be raised above the ground level with a fill of 10 or 12 inches of sand, gravel, or cinders to provide drainage and a certain amount of insulation. The floor should be laid in two courses, the first course being about 2 inches thick. The surface of this course should be covered with a layer of tar or roofing paper and then finished with a 2-inch course of concrete. Sloping the floor 1 inch every 10 feet from north to south will facilitate cleaning and a more even distribution of litter.

A piece of waterproofed insulation board should be placed between the floor and the wall to retard the tendency of frost to collect at this point. This insulation should extend from slightly below the top of the floor to the bottom of the foundation.

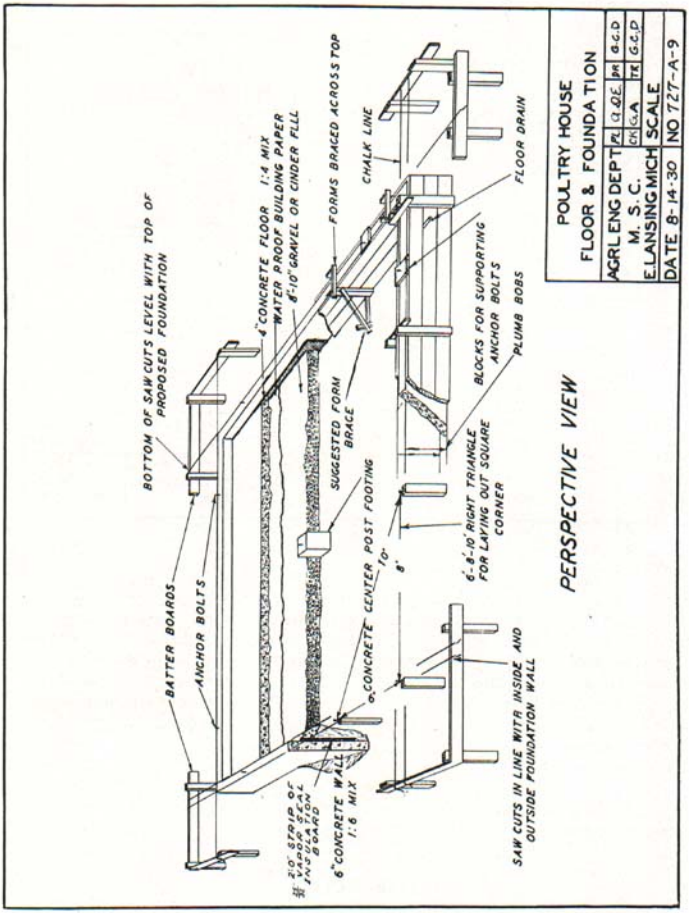


Fig. 14.

LIGHTING OF THE POULTRY HOUSE

Window glass is one of the poorest insulation materials used in the construction of a laying house. Though the correct amount of windows is necessary to insure the proper use of all the floor space by the birds too much glass may be detrimental. The windows should

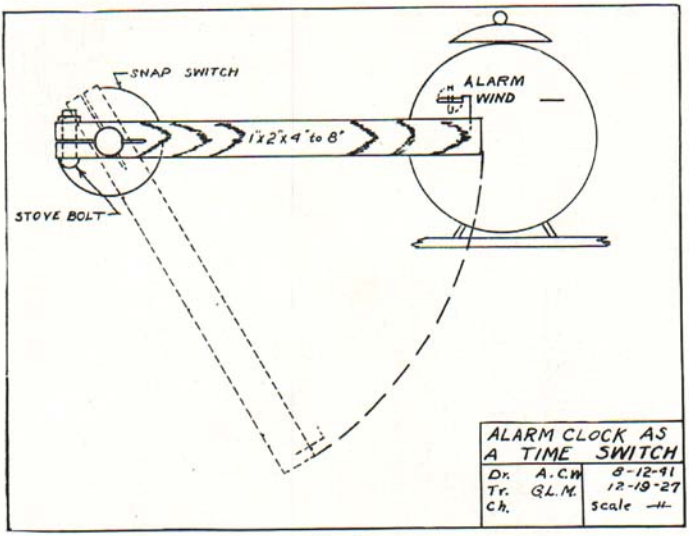


Fig. 15.

be long and narrow in order that the light may penetrate well back into the house. Windows underneath the dropping boards may be omitted. Now that cannibalism among commercial flocks has become a serious problem, it is important that a picked bird be able to hide herself for a short time in order to escape from the rest of the flock. One square foot of window glass to each 17 square feet of floor space should be adequate when the window space is properly distributed.

For artificial lighting, a 40- to 50-watt bulb in a 16-inch reflector, will service each 200 square feet of floor space. The lights should be arranged equidistant from the wall and perches. A device for turning on the lights regularly is shown in Fig. 15. This device should be placed in some part of the dwelling house.

THE ROOF

A well-constructed laying house should last 50 years—but only when the roof has functioned properly during that time. The built-up roof is a satisfactory type for a flat-roof type house. This type may be put on by the poultryman himself if he desires but it should be remembered that hot asphalt handled by inexperienced persons is dangerous and certain equipment will have to be rented or bought. Many commercial concerns are ready and willing to do this work satisfactorily for the poultryman.

Rolled roofing is not permanent. It is an economical roof so far as its initial cost is concerned but freezing and thawing will loosen the nails and trouble follows. When the slope of the roof is sufficient, wood shingles or sheet metal roofing will be found to be satisfactory. When galvanized steel is used it is advised to use a grade which bears the Zinc Institute Seal of Quality showing a 2-ounce coating of zinc.

NESTS

A hen likes privacy when she goes to lay. The nests should be placed in the darkest part of the house and as far away from the windows as possible. Semi-dark nests may be arranged by putting a screen made of feed sacks in front of the nests, allowing enough room between the screen and the nests for gathering the eggs. The nests should be deep enough to retain clean nesting material.

PERCHES AND DROPPING BOARDS

To facilitate cleaning and disinfecting, as much equipment as possible should be movable. This is true especially for perches and dropping boards. Perches built on tables 6 x 8 feet are easily moved and can be placed in any desired part of the house. During the summer, perches may be moved closer to the open windows to increase the air circulation around the birds at night if desirable.

The wire used under the perches to keep the birds from the dropping boards should be either 1½-inch diamond mesh made of 16-gage wire or electro-welded poultry netting made especially for this purpose.

Fig. 16. A 20' x 80' laying house that has given satisfactory results for the last 18 years. The entire roof, despite careful attention, must be replaced at once.

Fig. 17. Changing the hay mow over into a laying house. Note the use of galvanized window sash, which eliminates much labor in the framing of the window.

SIZE OF THE HOUSE

The size of the house should be determined by the size of the flock and the breed to be kept. The light breeds require 3½ square feet per bird and the heavy breeds 4 square feet. More birds can be kept per square foot of floor space in a large unit than in a small one.

REMODELING

Remodeling the barn into a satisfactory laying house usually can be done for one-half of the cost of building a new one. A large part of the plan given for the laminated rafter house can be followed here. Barns up to 40 feet wide and 60 feet long may be used satisfactorily for this purpose. Inasmuch as every barn constitutes a different problem, no specific set of rules can be laid down. Some type of an elevator for multiple-decked houses will prove to be a labor saver.

DROPPING PITS

Dropping pits are usually constructed against the north wall of the laying house. As shown in Fig. 18 they should be hinged. Perches should be 14 inches apart and their number will be determined by the floor area of the house. At least 8 inches of roosting space is required

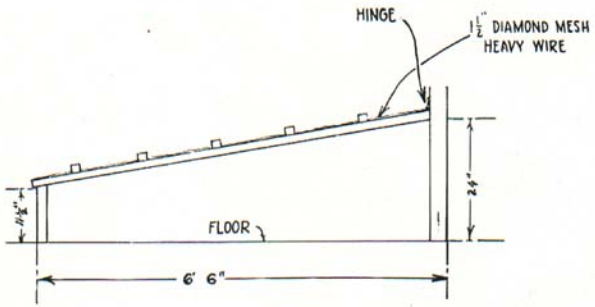


Fig. 18.

for each bird. Wire under the perches prevents the birds from coming in contact with the droppings.

MASH AND GRAIN HOPPERS

Each 100 laying hens requires 20 lineal feet of mash hopper space (two 5-foot mash hoppers). An extra 10 feet should be added when grain is fed in hoppers.

Some desire the mash hoppers to be placed directly on the floor. In this case the lip of the hopper should be 8 to 10 inches high. This distance should be great enough so that no litter can be scratched into the hopper yet low enough that the birds have ready access to the feed. Mash hoppers placed above the floor should have walk boards approximately 20 inches high.

A reel or grid should be provided to keep the birds out of the hopper yet allow them to readily reach the feed it contains. A one-inch lip on each side will prevent waste of feed.

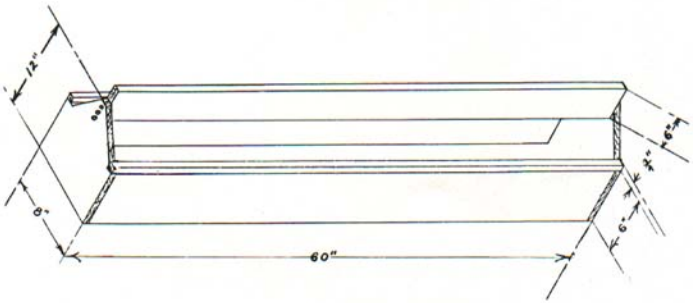


Fig. 19.

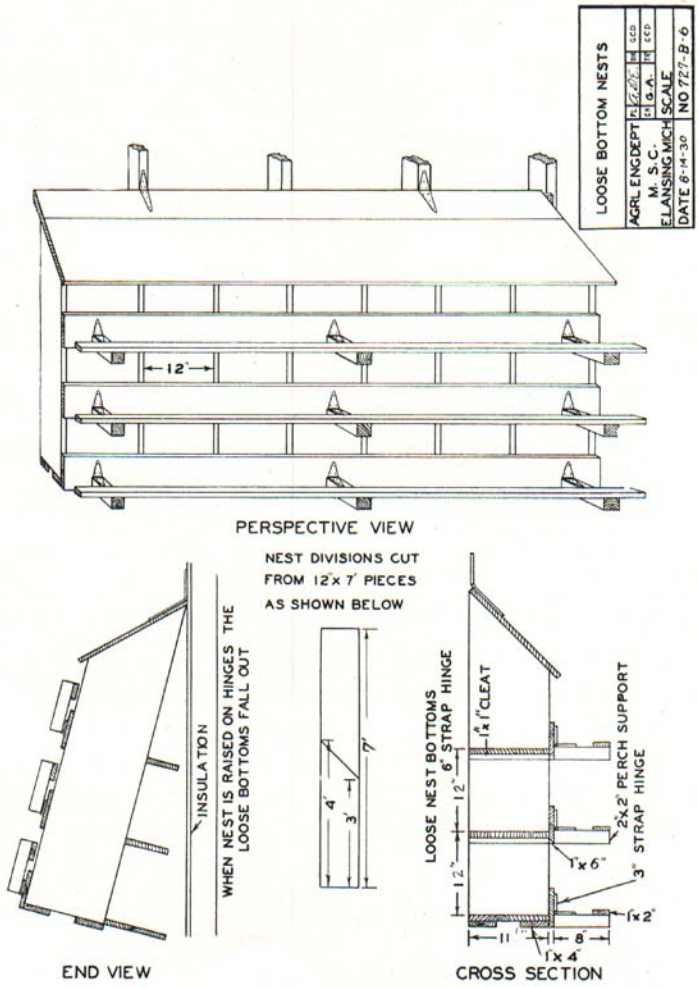
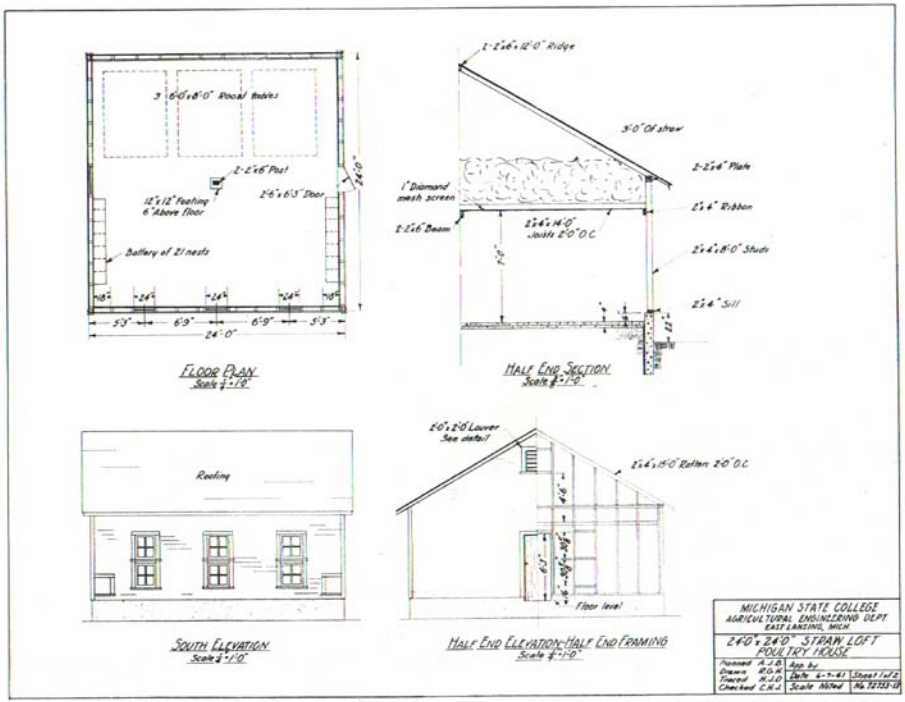
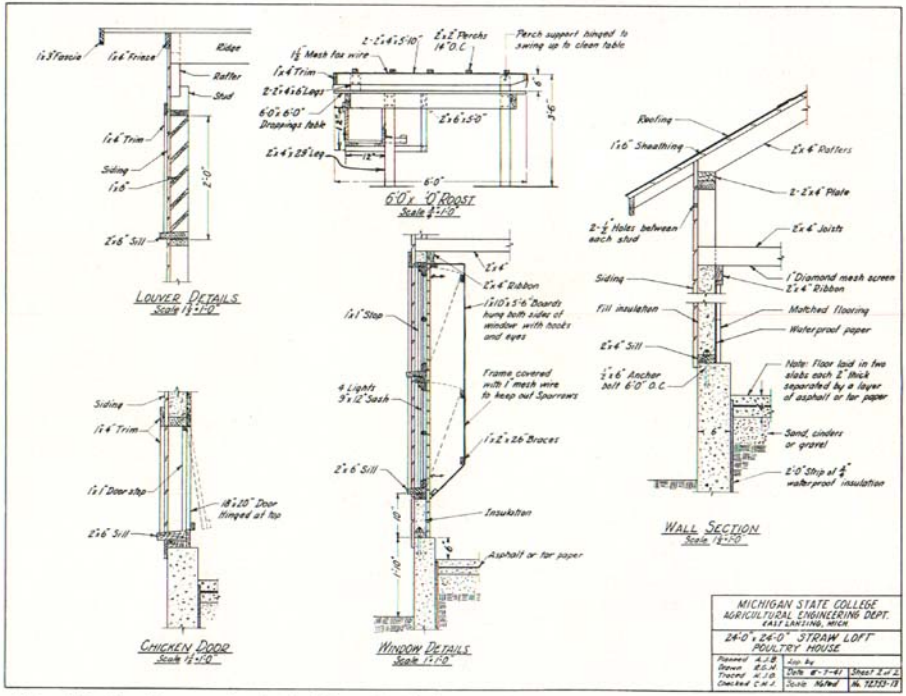


Fig. 20. Battery of nests.



Note—Working plans may be obtained from the Agricultural Engineering Department, Michigan State College.
Fig. 21. The 24 x 24 Straw Loft House.



Note—Working plans may be obtained from the Agricultural Engineering Department, Michigan State College.

Fig. 22. Details of 24 x 24 Straw Loft House.

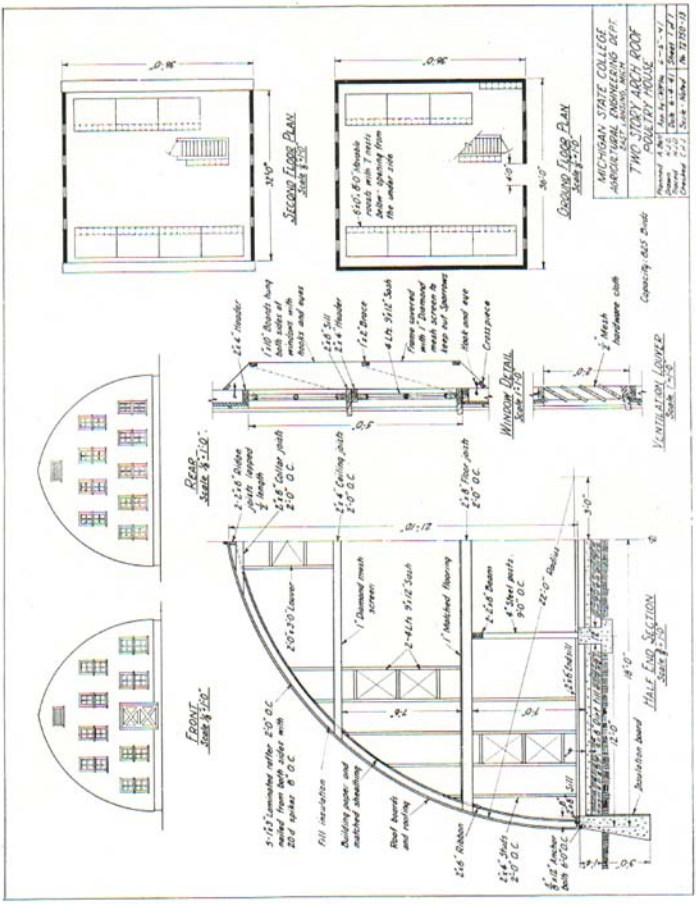


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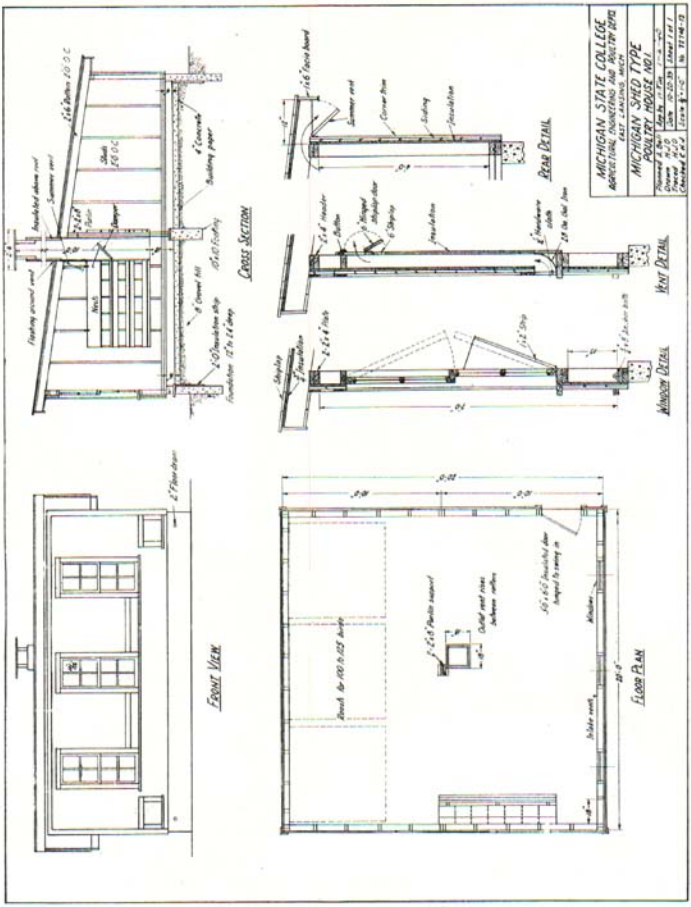
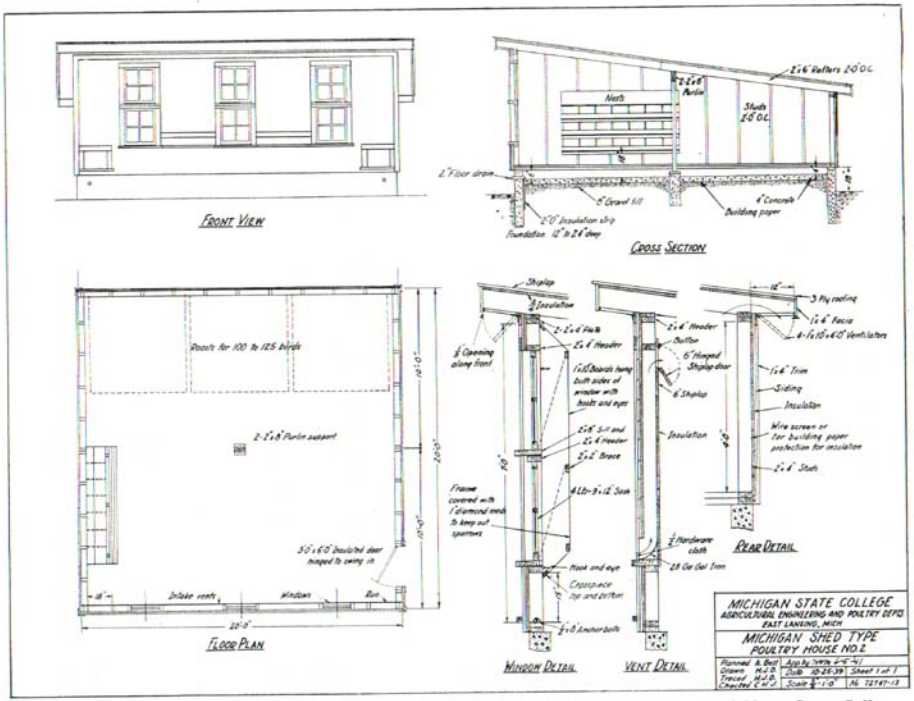
Fig. 23. Laminated Rafter 2-story House.



Note—Working plans may be obtained from the Agricultural Engineering Department, Michigan State College.
Fig. 24. Shed Roof House Plan No. 1.



Note—Working plans may be obtained from the Agricultural Engineering Department, Michigan State College.

Fig. 25. Shed Roof House Plan No. 2.

BILL OF MATERIAL

LOOSE BOTTOM WALL NESTS

(21 nests)

Nest divisions	2—1″ x 12″ x 14′
Front and top	2—1″ x 6″ x 16′
Top and nest bottoms	2—1″ x 12″ x 16′
Bottoms	1—1″ x 4″ x 16′
Perches	3—1″ x 2″ x 8′
Cleats	2—1″ x 1″ x 14′
Perch support	1—2″ x 2″ x 8′
Hinges	9—3″ tee
Hinges	2—6″ strap

BILL OF MATERIAL OF NESTS FOR EACH 6 X 8 ROOSTING TABLE IN LAMINATED RAFTER HOUSE

Nest divisions	2—1′ x 12″ x 8′
Front	1—1′ x 4″ x 8′
	1—1″ x 8″ x 8′
Back and nest support	2—1″ x 4″ x 8′ and 1—1″ x 2″ x 8′
Bottom	1—1″ x 4″ x 16′
Nest bottoms	1—1″ x 12″ x 8′
Perches	1—1″ x 2″ x 8′
Perch supports	1—2″ x 2″ x 6′
Hinges	6—3″ tee

BILL OF MATERIAL

*MOVABLE PERCHES AND DROPPING BOARDS

6 x 6

Legs	1—2″ x 4″ x 12′
Frame	1—2 x 6 x 10
	1—2 x 6 x 12
Floor	4—1 x 6 x 12 T & G
Perch support	1—2 x 4 x 12
Trim	1—1 x 4 x 12
Perches	3—2 x 2 x 12
Wire	6′ x 7′—1½″ mesh fox screen or 1″ x 4″ electro-weld wire mesh
Hinges	2—½ x 4 carriage bolts

BILL OF MATERIAL

MOVABLE PERCHES AND DROPPING BOARDS

6 x 8

Legs	1—2″ x 4″ x 14′
Frame	1—2 x 6 x 10
	1—2 x 6 x 16
Floor	4—1 x 6 x 16
Perch support	1—2 x 4 x 12
Trim	1—1 x 4 x 16
Perches	3—2 x 2 x 16
Wire	6′ x 9′—1½″ fox screen or 1″ x 4″ electro-weld wire mesh
Hinges	2—½ x 4 carriage bolts

*Perches in houses wider than 20 feet should be made 6 x 8.

BILL OF MATERIAL

24 x 24 STRAWLOFT POULTRY HOUSE

Foundation	9½ bbls. cement
	9½ yds. gravel
Floor	7½ bbls. cement
	7½ yds. gravel
Sills	8 pcs. 2x 4 x 12
Studs	30 pcs. 2 x 4 x 16
	4 pcs. 2 x 4 x 12
Plate	16 pcs. 2 x 4 x 12
Ribbon	4 pcs. 2 x 4 x 12
Rafters	30 pcs. 2 x 4 x 16
Ridge pole	4 pcs. 2 x 6 x 12
Roof boards	850 bd. ft. 1 x 6
Ridge roll	26 lineal ft.
Siding	1050 bd. ft. 1 x 6
Sheathing	850 bd. ft. 1 x 6 T & G
Joists	13 pcs. 2 x 4 x 12
	13 pcs. 2 x 4 x 14
Beam	4 pcs. 2 x 6 x 12
Posts	2 pcs. 2 x 6 x 8
Headers	3 pcs. 2 x 4 x 10
Door Louver and window sills	3 pcs. 2 x 6 x 12
Door Louver and window trim	13 pcs. 1 x 4 x 12
Corner trim	4 pcs. 1 x 4 x 16
Frieze—facia	8 pcs. 1 x 4 x 14
Louvers	3 pcs. 1 x 6 x 12
Roofing	8 squares
Window guards	4 pcs. 1 x 10 x 12
Insulation	264 cu. ft. fill type
Insulation (Vaporseal)	4 pcs. 4 x 12 x 25/32
Waterproof paper	1000 sq. ft.
Tar paper (floor)	576 sq. ft.
Windows	8—4 lt. 9 x 12 sash
Door	1—2'-6" x 6'-3"
Wire netting (ceiling)	576 sq. ft. 1" diamond mesh
Wire netting (windows)	24 lineal ft. 26" wide 1" dia. mesh
Anchor bolts	16—½" x 6" carriage
Hinges	1 pr. 6" tee
Window guard hangers	16 hooks and eyes 3"
Nails	10# 8d box
	20# 8d common
	10# 10d common
	30# 16d common
	15# 1½" roofing nails
	3# 1" netting staples

BILL OF MATERIAL

TWO-STORY LAMINATED RAFTER POULTRY HOUSE

Foundation	17 bbls. cement
	17 yds. gravel
Floor (first)	16 bbls. cement
	16 yds. gravel
Sills	12 pcs. 2 x 8 x 12
Ribbon	6 pcs. 2 x 4 x 12
Rafters	1600 ft. 1 x 3
Ridge pole	6 pcs. 2 x 6 x 12
Roof boards	2250 bd. ft. 1 x 6
Sheathing	2600 bd. ft. 1 x 6
Waterproof paper	2600 sq. ft.
Girders	12 pcs. 2 x 8 x 12
Posts	16 pcs. 2 x 8 x 8 or 8 pcs. 4" steel
Joists (lower)	57 pcs. 2 x 8 x 12
Joists (upper)	38 pcs. 2 x 4 x 12
Second floor	1400 bd. ft. 1 x 6 T & G
Studs	18 pcs. 2 x 4 x 14
	8 pcs. 2 x 4 x 12
	12 pcs. 2 x 4 x 10
	3 pcs. 2 x 4 x 16
Siding	1300 bd. ft. 1 x 6 T & G
Roofing	2450 sq. ft.
Ridge roll	38 lineal ft.
Insulation (fill)	1500 cu. ft.
Insulation (Vaporseal)	6 pcs. 4 x 12 x 25/32
Windows	34—4 lt. 9 x 12 sash
Door	1—2'-6" x 6'-3"
Louvers	1—1 x 6 x 16
	2—1 x 6 x 10
Collar beam	10 pcs. 2 x 6 x 12
Window guards	17 pcs. 1 x 10 x 12
Trim	600 lineal ft. 1 x 4
Headers	20 pcs. 2 x 4 x 12
Window guard strips	17 pcs. 1 x 2 x 12
Wire netting (windows)	120 lineal ft. 26" wide 1" dia. mesh
Wire netting (ceiling)	720 sq. ft. 1" diamond mesh
Anchor bolts	24—½ x 8 carriage
Window guard hangers	68 hooks and eyes 3"
Hinges (door)	1 pr. 8" tee
Tar paper (floor)	1296 sq. ft.
Nails	150# 20d common
	50# 16d common
	50# 8d common
	15# 8d box

BILL OF MATERIAL

20 x 20 SHED TYPE POULTRY HOUSE

No. 1

Foundation	7 yds. gravel
	7 bbls. cement
Floor	5 yds. gravel
	5 bbls. cement
Sills	16 pcs. 2 x 4 x 10
Plates	16 pcs. 2 x 4 x 10
Studding	13 pcs. 2 x 4 x 12
	9 pcs. 2 x 4 x 14
Purlin	4 pcs. 2 x 8 x 10
Posts	1 pc. 2 x 6 x 12
Rafters	22 pcs. 2 x 6 x 12
Roof boards	612 bd. ft.
Roofing	6 squares
Insulation (roof)	400 sq. ft. 25/32
Insulation (walls)	5 pcs. 4 x 8 front
	3 pcs. 4 x 10 back
	7 pcs. 4 x 10 ends
	1 pc. 4 x 8 nests
	1 pc. 4 x 10 intake vents
Siding	65 pcs. 1 x 6 x 12
	65 pcs. 1 x 6 x 8
Trim	32 pcs. 1 x 4 x 12
Vents	6 pcs. 1 x 8 x 10
Door and window sills	3 pcs. 2 x 6 x 12
Door and window headers	6 pcs. 2 x 4 x 12
Door	1—2'-6" x 6'-3"
Window cheek boards	1—1 x 8 x 12
Out-take flue	14 pcs. 1 x 6 x 10 T & G
Anchor bolts	8—½ x 8 carriage
Windows	6—4 lt. 9 x 12 sash
Hinges	1 pr. 6" tee
	3 pr. 3" tee
	5 pr. 3" strap
Door latch	1 set
Nails	10# 16d common
	20# 8d common
	20# 8d box
	12# 1½" roofing
	1# 1" galvanized poultry netting staples

BILL OF MATERIAL

20 x 20 SHED ROOF POULTRY HOUSE

No. 2

Foundation	7 yds. gravel
	7 bbls. cement
Floor	5 yds. gravel
	5 bbls. cement
Sills	16 pcs. 2 x 4 x 10
Plates	16 pcs. 2 x 4 x 10
Studding	13 pcs. 2 x 4 x 12
	9 pcs. 2 x 4 x 14
Purlin	4 pcs. 2 x 8 x 10
Posts	1 pc. 2 x 6 x 12
Rafters	22 pcs. 2 x 6 x 12
Roof boards	612 bd. ft.
Roofing	6 squares
Insulation (roof)	400 sq. ft. 25/32
Insulation	5 pcs. 4 x 8 front
Insulation	3 pcs. 4 x 10 back
Insulation	7 pcs. 4 x 10 ends
	1 pc. 4 x 8 nests
	1 pc. 4 x 10 intake vents
Siding	65 pcs. 1 x 6 x 12
	65 pcs. 1 x 6 x 8
Trim	32 pcs. 1 x 4 x 12
Vents	4 pcs. 1 x 10 x 10
Door and window sills	3 pcs. 2 x 6 x 12
Door and window headers	6 pcs. 2 x 4 x 12
Door	1—2'-6" x 6'-3"
Window guards	3 pcs. 1 x 10 x 12
Window guard strips	30 lineal ft. 1 x 2
Anchor bolts	8—½ x 8 carriage
Windows	6—4 lt. 9 x 12 sash
Hinges	1 pr. 6" strap
Door latch	1 set
Nails	10# 16d common
	20# 8d common
	20# 8d box
	12# 1½" roofing nails
	1# 1" galvanized netting staples