
Oregon Agricultural College
Experiment Station

Building Plans and Bill of
Materials for O. A. C.
400-Hen Laying
House

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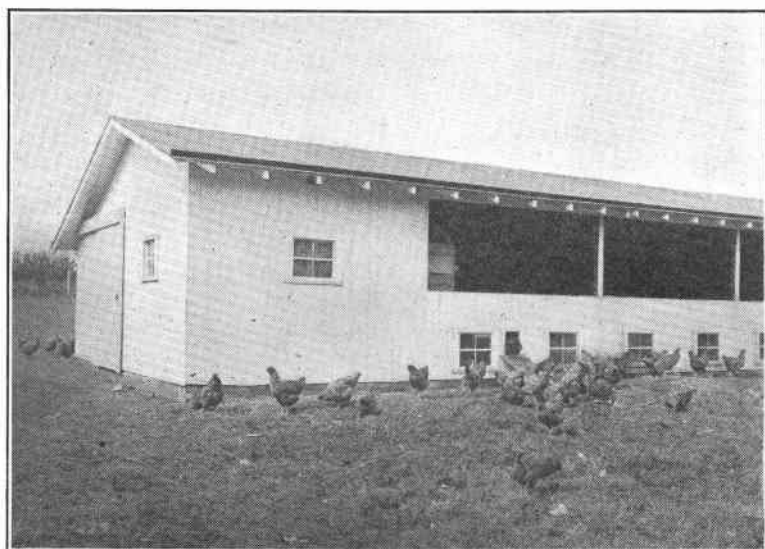
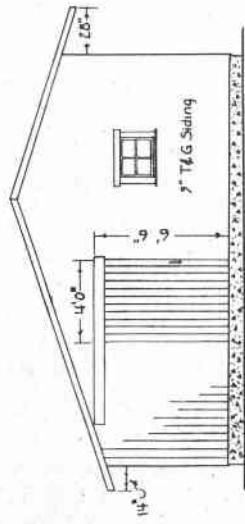
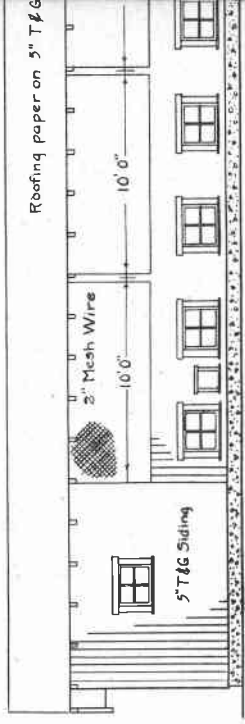
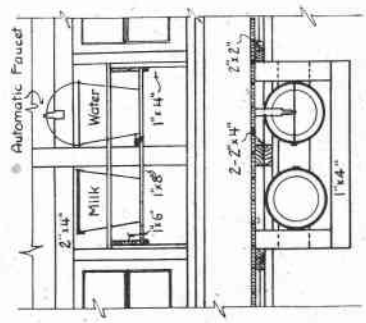
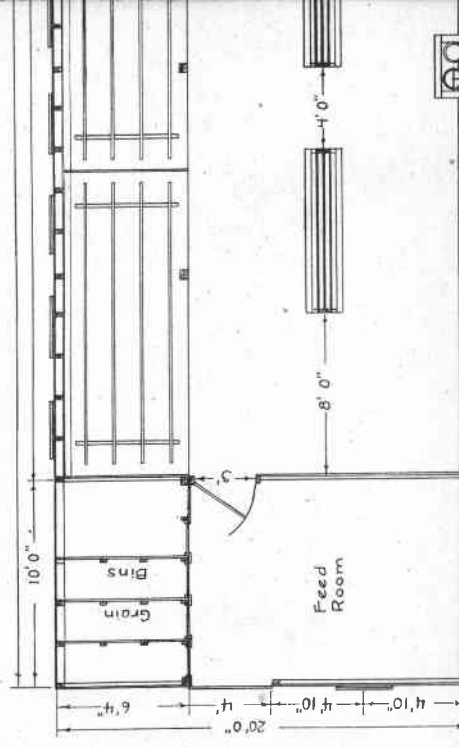


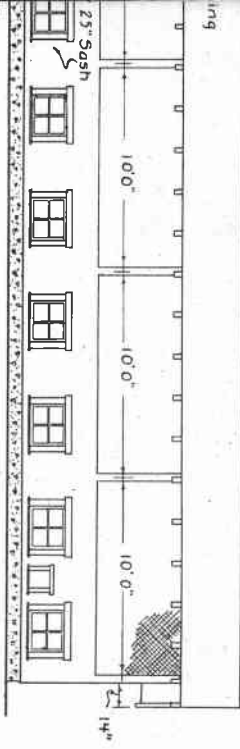
Fig. 1. O. A. C. Laying House.



END ELEVATION

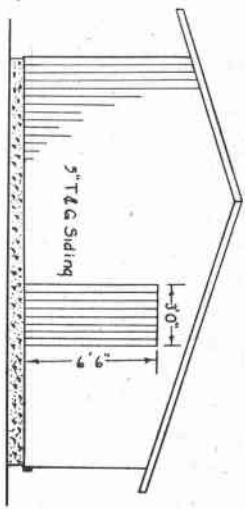
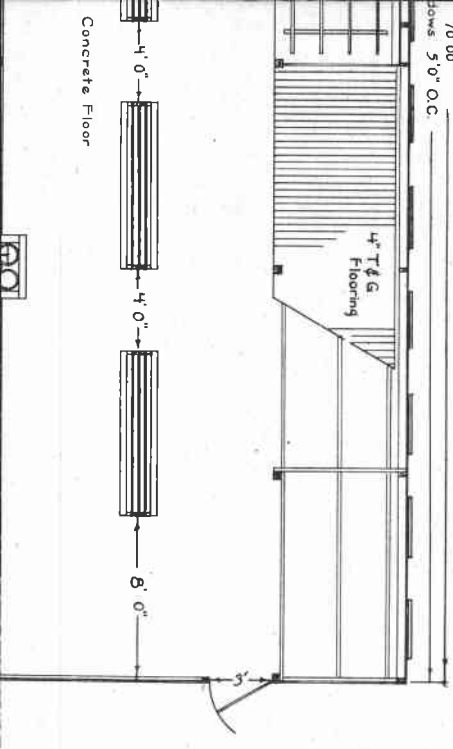


DETAIL OF WATER & MILK

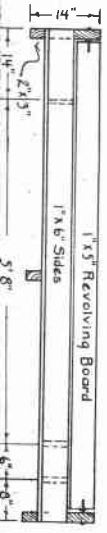


ELEVATION

70' 00"
Rows 5' 0" O.C.



END ELEVATION



O.A.C. 400-Hen Laying House

The Poultry Husbandry department receives each year hundreds of requests for the building plans of laying houses. The present circular, presenting building plans and the bill of materials for the O. A. C. 400-hen laying house, may now be used in answering these requests. The problems involved in poultry housing will be discussed in a forthcoming general bulletin on that subject.

Dimensions. The O. A. C. 400-hen laying house is 20 feet deep and 70 feet long. This includes a feed room at one end, which is 10 by 20 feet. That portion of the house occupied by the birds is thus 20 feet by 60 feet, which allows 3 square feet of floor space per bird. The house is 6 feet high in the rear, 8 feet in front, and 10 feet 4 inches high in the peak. Roof pitch is 1 in 3.

Floor. In the construction of the concrete floor, the usual foundation walls are omitted, the entire floor being poured at one time, which makes it consist of one large block. (See "detail cross section" in plans.) This block should be in a perfect plane, the front edge of which is $1\frac{1}{2}$ inches lower than the rear edge. This allows for drainage when it is desired to wash the floor. The layer of gravel under the concrete serves to break the contact between the concrete and the earth, thus preventing moisture from coming up through the floor.

Nests. The plans and bill of materials do not provide for nests. This omission has been made because some will wish ordinary nests while others will wish trap-nests.

Ordinary nests can be located on the front of the house between the wire and the windows, or tiered at the ends of the house, or, as a last choice, placed under the dropping boards. From seventy to eighty such nests would be required for this house.

About 100 trap-nests would be required for this house. Thirty of this number can be tiered against each end wall as shown in the pictures, while the remaining forty can be tiered in a battery in the center of the house, or as a last choice, placed under the dropping boards. The plans of the O. A. C. trap-nest are contained in Station Circular 33.

Oiling dropping boards. It is recommended that the dropping boards, before being used, be given two or three coats of flushing oil, a product procurable at any automobile garage. This may be applied with a wide brush or spray. This treatment makes the boards easier to clean and at the same time tends to prevent their warping or swelling with moisture.

Suggestions on construction. The nailing girts in the front, ends, and back of the house should be toe-nailed to the posts and not notched through them, as the notching reduces the strength of the posts too much.

Three strands of wire, four inches apart, parallel with and on the top side of each cross tie, will prevent the birds roosting there. If these wires are to be put in, it will be found best to stretch them before the sheathing is put on, for at that time they can be stapled to the sides of the rafters with great ease.

BILL OF MATERIALS

Floor (Concrete 1:3:5 mix — with topping $\frac{1}{4}$ " thick of 1:2 mix)	
25 cubic yards gravel for layer under floor	10 cubic yards of sand
22 barrels of Portland cement	13 cubic yards of gravel

Front Wall

- | | |
|--|----------------------------------|
| 6 — 2"x4"x20' for sill | 1 — 2"x4"x10' for purlin |
| 2 — 2"x4"x10' for sill | 3 — 2"x8"x20' for purlin |
| 8 — 2"x4"x16' for posts | 1 — 2"x8"x10' for purlin |
| 3 — 2"x4"x20' for purlin | 14 — 2"x4"x10' for nailing girts |
| 60 — feet of 48"—2" mesh poultry wire for front of house | |
| 60 — lineal feet quarter round for bottom of wire | |
| 310 — board feet 1"x5" tongue and groove for siding | |
| 13 — windows (4 — 8"x10" glass) | |
| 13 — 1"x4"x10' for framing windows | |
| 4 — 2"x2"x12' for inside window frames | |

Middle Posts and Purlin

- | | |
|--------------------------|--------------------------|
| 8 — 2"x4"x16' for posts | 3 — 2"x8"x20' for purlin |
| 3 — 2"x4"x20' for purlin | 1 — 2"x8"x10' for purlin |
| 1 — 2"x4"x10' for purlin | |

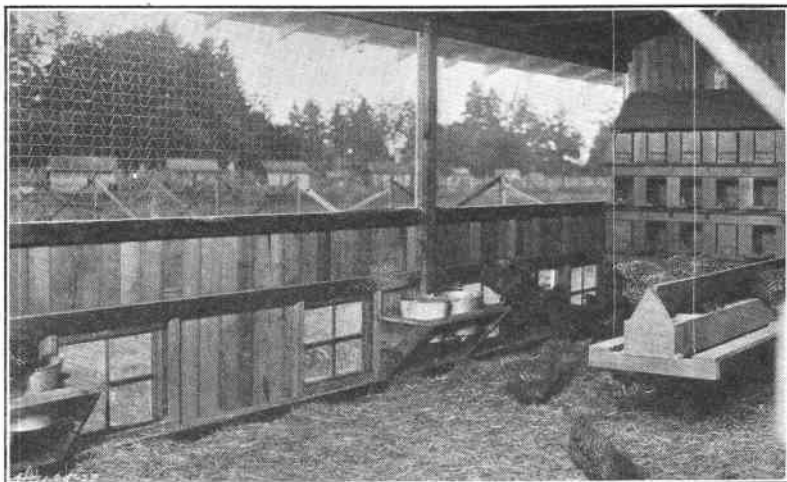


Fig. 2. Inside of O. A. C. Laying House, showing construction of front wall, water and milk shelf, and mash hopper.

Rear Wall

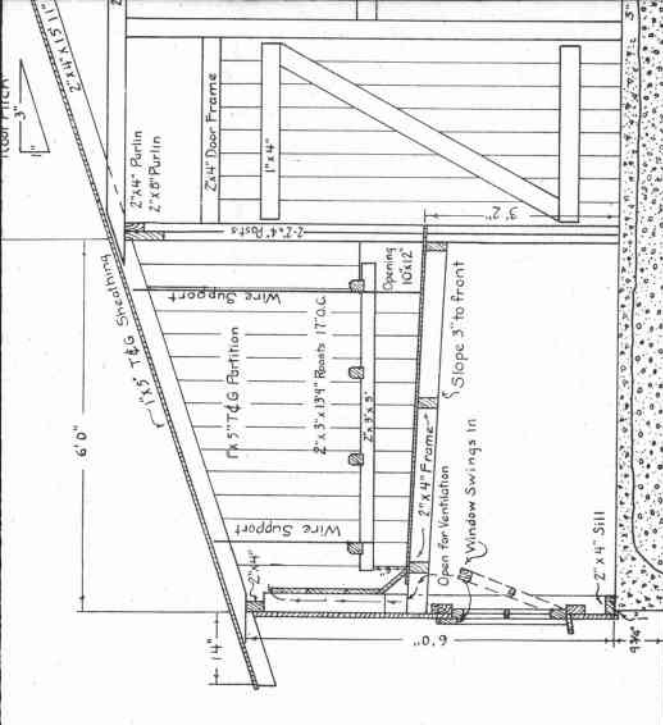
- | | |
|---|----------------------------------|
| 3 — 2"x4"x20' for sill | 3 — 2"x4"x20' for purlin |
| 1 — 2"x4"x10' for sill | 1 — 2"x4"x10' for purlin |
| 4 — 2"x4"x12' for posts | 13 — 2"x4"x10' for nailing girts |
| 500 — board feet 1"x5" tongue and groove for sidings | |
| 12 — windows (4 — 8"x10" glass) | |
| 12 — 1"x4"x10' for framing windows | |
| 4 — 2"x2"x12' for inside window frames | |
| 4 — 2"x4"x14' for short posts in ventilating device | |
| 20 — 1"x8"x12' (shiplap) for double boarding ventilating device | |

End Walls and Feed Room Partition

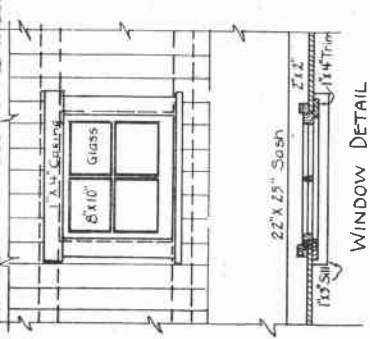
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|---|--|
| 3 — 2"x4"x20' for sills | 6 — 2"x4"x12' for nailing girts and braces |
| 3 — 2"x4"x12' for framing doors | 3 — 2"x4"x14' for nailing girts |
| 600 — board feet 1"x5" tongue and groove for siding and doors | |
| 7 — 1"x4"x14' for door casing and cleats | |
| 1 — window (4 — 8"x10" glass) for feed room end | |
| 1 — 1"x4"x10' for framing window | |
| 2 — prs. 6" strap hinges | |
| 2 — 6" hasps | |
| 1 — door bolt | |
| 1 — set door rollers and 8 feet of track | |

Roof

- | | |
|---|----------------------------------|
| 38 — 2"x4"x16' for rear rafters | 38 — 2"x4"x10' for front rafters |
| 8 — 2"x4"x16' for cross ties | |
| 2300 — board feet 1"x5" tongue and groove for sheathing | |
| 20 — rolls (100 sq. ft. each) 3-ply roofing paper | |



DETAIL



WINDOW DETAIL

Dropping Boards

- 4 — 2"x4"x12' for under framing
 18 — 2"x4"x10' for under framing
 500 — board feet of 1"x4" tongue and groove flooring (6', 12', or 18' lengths)
 for dropping board tops
 100 — board feet 1"x5" tongue and groove for partitions

Roosts

- 4 — 2"x3"x10' for perch support; 16 — 2"x3"x14' for perches
 100 — lineal feet No. 12 galvanized wire for supporting roosts

Water and Milk Shelf

- 1 — 1"x6"x10' for ends 2 — 1"x4"x12' for treads and braces
 1 — 1"x8"x8' for bottoms

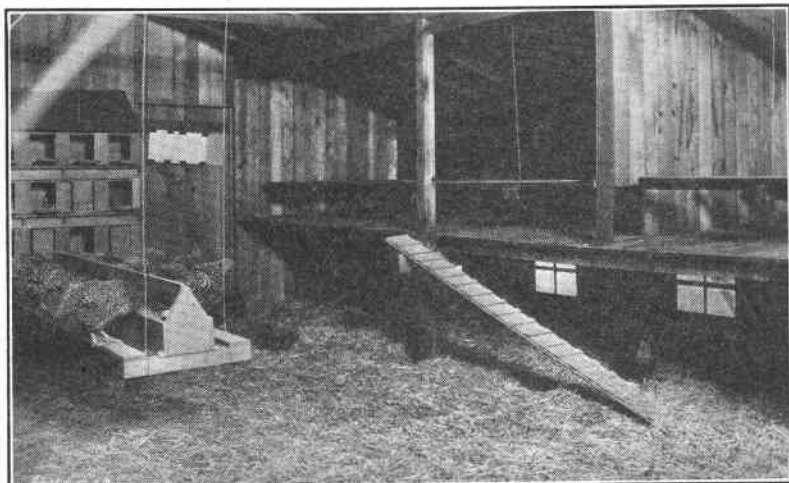


Fig. 3. Inside of O. A. C. Laying House, showing dropping boards and perches.

- Mash Hoppers
 1 — 2"x8"x10' for ends 2 — 1"x5"x16' for revolving boards
 2 — 1"x8"x16' for bottoms 2 — 2"x3"x12' for bottom supports
 4 — 1"x6"x16' for sides 4 — 1"x4"x16' for treads
 150 — lineal feet No. 12 galvanized wire for hanging hoppers
 64 — lineal feet of quarter round for lips.

Feed Bins

- 2 — 2"x4"x16' for posts 3 — 2"x4"x14' for posts
 200 — board feet 1"x5" tongue and groove for partitions
 8 — 1"x8"x10' (shiplap) for fronts

Nails

- 100 lbs. 8d box 5 lbs. 30d common
 25 lbs. 16d common 10 lbs. 6d finishing
 10 lbs. 20d common 2 lbs. small staples

SUMMARY

Lumber

- | | |
|--|---------------------------------|
| 6 — 2"x8"x20' S4S No. 1 Common | 8 — 2"x2"x12' S4S No. 1 Common |
| 3 — 2"x8"x10' S4S No. 1 Common | 4 — 1"x4"x16' S2S No. 1 Common |
| 21 — 2"x4"x20' S4S No. 1 Common | 7 — 1"x4"x14' S2S No. 1 Common |
| 64 — 2"x4"x16' S4S No. 1 Common | 2 — 1"x4"x12' S2S No. 1 Common |
| 10 — 2"x4"x14' S4S No. 1 Common | 26 — 1"x4"x10' S2S No. 1 Common |
| 17 — 2"x4"x12' S4S No. 1 Common | 2 — 1"x5"x16' S4S Clear |
| 89 — 2"x4"x10' S4S No. 1 Common | 1 — 1"x6"x10' S4S No. 1 Common |
| 16 — 2"x3"x14' S4S No. 1 Common | 4 — 1"x6"x16' S2S No. 1 Common |
| 2 — 2"x3"x12' S4S No. 1 Common | 1 — 1"x8"x 8' S2S No. 1 Common |
| 4 — 2"x3"x10' S4S No. 1 Common | 2 — 1"x8"x16' S2S No. 1 Common |
| 8 — 1"x8"x10' (shiplap) No. 1 Common | |
| 20 — 1"x8"x12' (shiplap) No. 1 Common | |
| 124 — lineal feet of quarter round | |
| 4010 — board feet 1"x5" tongue and groove No. 1 Common | |
| 450 — board feet 1"x4" tongue and groove flooring No. 4 Common | |
| 26 — windows, 4—8"x10" glass each | |
| 20 — rolls 3-ply roofing paper | |

Hardware

- | | |
|--|----------------------------|
| 60 — lineal feet of 48" — 2" mesh poultry wire | 100 lbs. 8d box nails |
| 250 — lineal feet of No. 12 galvanized wire | 25 lbs. 16d common nails |
| 2 — prs. 6" strap hinges | 10 lbs. 20d common nails |
| 2 — 6" hasps | 5 lbs. 30d common nails |
| 1 — door bolt | 10 lbs. 6d finishing nails |
| 1 — set door rollers and 8' of track | 2 lbs. small staples |