

Types of Houses for Laying Hens

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A GOOD poultry house has been considered one of the fundamental factors involved in profitable poultry production. Laying houses, following general recommendations, have been expensive, requiring an investment of approximately one dollar per hen housed. This has prevented many farmers from attempting to keep hens as a source of farm income.

Poultry housing experiments conducted at the Sand Mountain Substation, Crossville, Alabama, from 1936 to 1941 indicate to what extent it is necessary to house small flocks of laying hens. The results of these tests are given in this publication.

CONDITIONS

Six methods of housing hens were studied. Fifty White Leghorn pullets were placed in each house in September, managed as uniformly as possible for approximately eleven months and then sold. A new group of pullets was started each September. Laying mash and whole corn were available in hoppers at all times. The hens in each house had access to a sodded yard having an area of about $\frac{1}{4}$ of an acre. Any hens dying during September or October were replaced without handicapping the house on the assumption that mortality occurring so soon after the birds had been placed in the house could not have been due to the method of housing.

The records of minimum and maximum temperatures occurring while this test was being conducted, and rainfall during the years 1936-1941 are shown in Table 1.

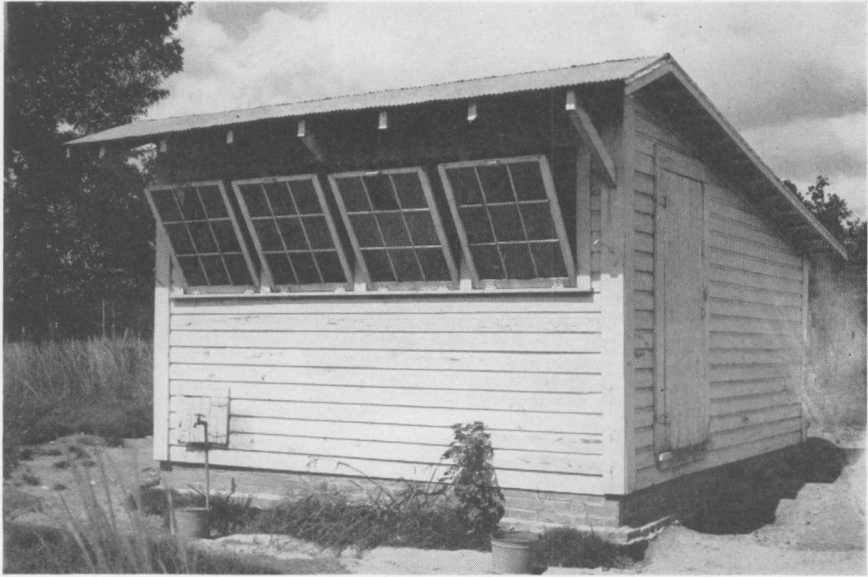
TABLE 1.—Minimum and Maximum Temperature and Total Rainfall Records, Sand Mountain Substation, Crossville, Alabama, 1936-1941.

Year	Minimum Temperature	Maximum Temperature	Rainfall Per Year
	degrees F	degrees F	inches
1936 -----	19	100	57.08
1937 -----	6	98	56.95
1938 -----	13	96	53.98
1939 -----	16	95	46.39
1940 -----	—10	94	50.52
1941 -----	20	94	44.28

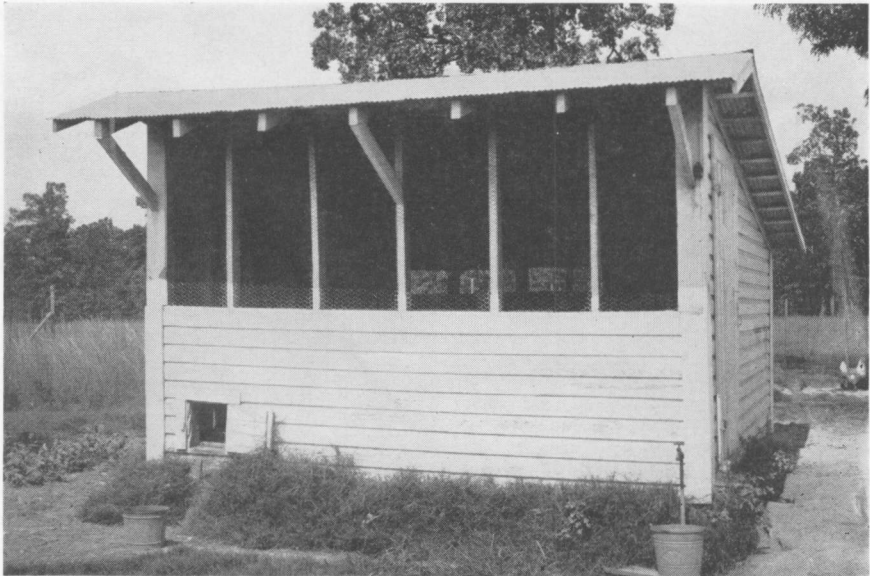
It will be noted that during 1940 the temperature dropped to 10 degrees below zero and therefore the hens were exposed to rather extreme cold weather for Alabama.

The following pictures illustrate the housing methods studied. Each house is 12 feet wide, 14 feet long and 6 to 8 feet high.

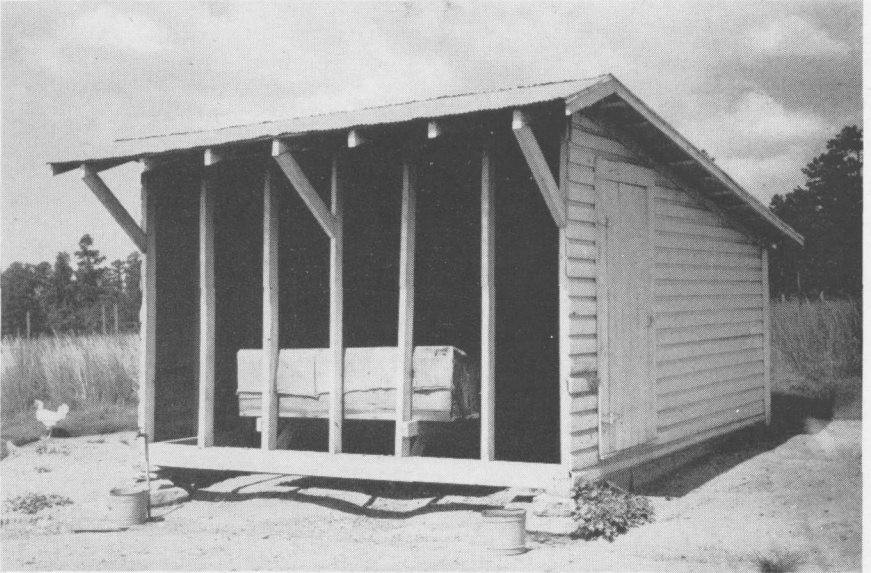
HOUSES



HOUSE NUMBER 1.—Solid foundation, wooden floor and ceiled throughout. Windows provide means of controlling ventilation.



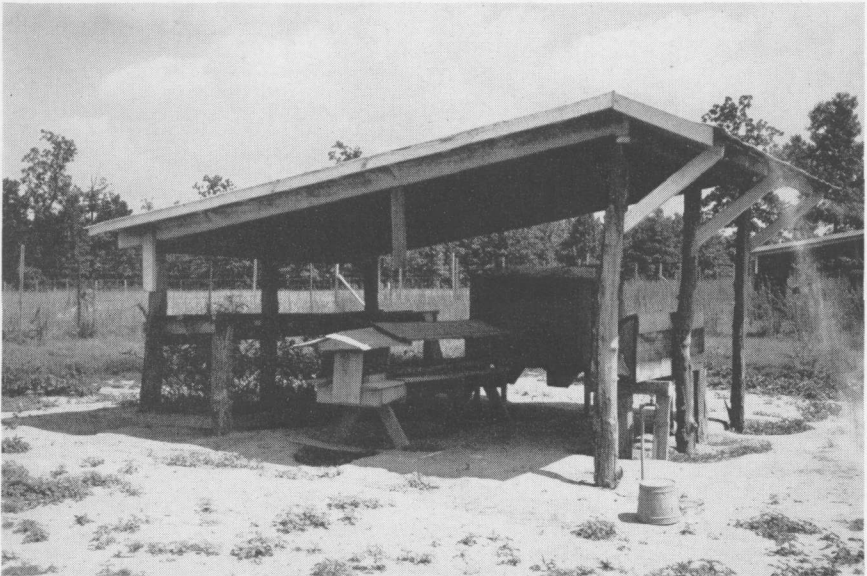
HOUSE NUMBER 2.—Solid foundation and wooden floor. Not ceiled.



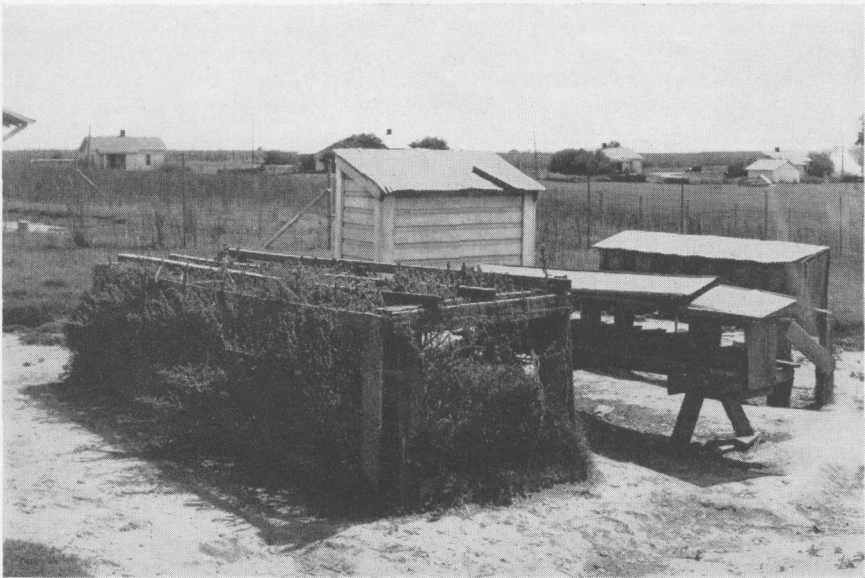
HOUSE NUMBER 3.—Dirt floor. North, east and west walls tight. South side entirely open.



HOUSE NUMBER 4.—Roof and tight north wall.



HOUSE NUMBER 5.—Roof. All four sides open.



HOUSE NUMBER 6.—Hens here had no protection from wind or rain. During summer shade was provided.

Equipment in each house consisted of six nests, one 4 foot mash trough, one 2 foot grain trough, two watering buckets, one oyster shell hopper, and a feed storage bin.

RESULTS

The results secured in this test are given in Table 2. These figures represent five year averages.

TABLE 2.—Summary of Results of Sand Mountain Poultry Housing Experiment.

House Number	1	2	3	4	5	6
Initial cost of house and equipment -----	\$90.00	\$50.00	\$35.00	\$28.50	\$25.00	\$7.50
Initial cost of house and equipment per bird -----	1.80	1.00	.70	.57	.50	.15
Eggs produced per bird per period* -----	176	170	170	161	152	161
Fall and winter** eggs per bird	63	60	57	51	49	54
Pounds mash consumed per bird per period -----	37	37	37	37	35	35
Pounds grain consumed per bird per period -----	38	38	38	43	43	45
Income per bird per period ---	\$3.41	\$3.26	\$3.24	\$3.04	\$2.96	\$3.11
Feed cost per bird per period--	\$1.12	\$1.12	\$1.12	\$1.17	\$1.13	\$1.15
Interest, depreciation and maintenance charges on house per bird, cents -----	.21	.12	.08	.07	.06	.02
Income per bird over feed and annual house charges -----	\$2.08	\$2.02	\$2.04	\$1.80	\$1.77	\$1.94
Feed and house charges per dozen eggs produced, cents--	9.0	8.7	8.5	9.3	9.4	8.7
Profit per dozen eggs above feed and house charges, cents ---	14.2	14.3	14.3	13.4	13.9	14.5

* Eleven months.

** September through January.

DISCUSSION

The most surprising part of this test was the performance of the birds with little or no protection (House Number 6). They produced 92 per cent as well as the hens in house number 1, the most expensive house; however, the birds without a house consumed more grain and less laying mash than the hens that were better protected. During the extreme cold period in 1940 many of the hens that were not housed at all lost the tips of their toes and points of their combs; none of these hens, however, died from exposure. When the weather was extremely cold, the hens in the houses having little or no protection would prac-

tically stop laying, but would start again as soon as the weather improved. Since egg prices in this section are highest from August through December, extreme cold weather which usually occurs during late December or January, did not affect materially the income from the hens without a house of any kind.

The average income per bird for the eleven month period from hens that did not have any protection was \$3.11, just 30¢ per bird less than that obtained from hens in the most expensive house. After feed costs, 6% interest charges, and 6% annual depreciation have been deducted, there was an income difference of only 14¢ per hen per year between unhoused hens and those that had the benefit of the most expensive house.

The unhoused hens produced eggs with a feed and equipment cost of only 8.7¢ per dozen, which was slightly lower than the cost of eggs produced in the most expensive house, but slightly higher than those produced in the simple house with dirt floor, three sides and a roof (House Number 3). The average sales price per dozen eggs marketed from the unhoused hens was just as high as the average sales price per dozen eggs marketed from the hens in the most expensive house, and the profit per dozen above feed and housing costs was greater from the unhoused group than from any other.

Hens kept in the simple house with dirt floor, three sides and a roof, laid 170 eggs each compared with 176 eggs per hen in the most expensive house and consumed exactly the same amount of feed. Although the gross income in the three-sided house was 17¢ less per hen per period than the income in the most expensive house, the income above feed and housing costs was only 4¢ below that obtained in the most expensive house. The feed and housing costs per dozen eggs produced was lower in the three-sided house than in any of the others. The profit per dozen eggs above feed and housing costs was approximately the same in the three most expensive houses.

When one considers that hens housed in a \$35.00 house produce 170 eggs each compared to 176 eggs per hen from those housed in a house costing \$90.00, it is easy to understand that hens do not lay in proportion to the cost of the house in which they are sheltered. There are many other advantages in favor of farmers using an inexpensive shed-type house for their chickens. Of utmost importance is the fact that the initial cost of this house is low and therefore farmers with a small amount of capital or limited credit can build a house of this kind and keep chickens as a source of cash income where otherwise they could not. Shed-type houses are simple to build and common farm labor can be used in their construction whereas more technical skill is necessary to construct more expensive houses. In many cases the skilled labor would have to be hired. In providing the proper ventilation for hens in tightly constructed houses, the caretaker must throughout the fall and winter months give this matter constant detailed attention or the hens will suf-

fer from inadequate ventilation or will be exposed to drafts. The ventilation of an open shed is foolproof and requires little or no attention. The hens kept in the open shed always receive plenty of fresh air and are never exposed to drafts created by changes in ventilation. Due to areas around the chicken house becoming contaminated with parasites and diseases it is becoming a common practice among progressive poultrymen to move the poultry house periodically to uncontaminated ground. This practice is nearly impossible when a heavy poultry house with a solid foundation and floor is being used, but very easy when a light weight house with no permanent foundation or floor is used. Apparently a house like number 3, having a dirt floor, tight north, east and west walls together with a good roof provides adequate protection for laying hens in Alabama, and more elaborate houses are not necessary or desirable.

SUMMARY

1. Hens of good breeding if fed and managed properly will produce profitably in Alabama even though no house is provided.
2. Hens kept in a house costing \$90.00 produced only 8 per cent more eggs than those having no house and only 3 per cent more eggs than those having a three-sided shed costing \$35.00.
3. The feed and housing costs per dozen eggs produced was lower in the three-sided shed than in any of the other houses studied.
4. The birds without a house consumed a larger amount of feed which was proportionately more grain and less laying mash than was consumed by the hens that were well protected.
5. There was little or no relationship between the type of house and mortality.
6. For protection against thieves, rodents, foxes, dogs, and greater ease of maintaining sanitation it is considered desirable to provide a poultry house.
7. An inexpensive poultry house such as house number 3 having a dirt floor, tight north, east and west walls together with a good roof is satisfactory for laying hens in Alabama.

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