

al to exclude drafts or to place the roof boards close together and cover thoroughly with tarred paper before shingling. The ordinary shingle roof is too open for windy weather when the mercury is at or below the zero mark. The fowls will endure severe weather without suffering from frosted combs or wattles if there are no drafts of air. Hens will lay well during the winter months if the houses are warm enough so that the single-comb varieties do not suffer from frost bite. Whenever the combs or wattles are frozen, the loss in decreased egg production cannot be other than serious.

Figure 1 represents a cheap and efficient method of building a poultry house with a hollow side wall. The sill may be a 2 by 6 or 2 by 8 scantling, laid flat on the wall or foundation; a 2 by 2 strip is nailed at the other edge to give the size of the space between the boards which constitute the side walls. A 2 by 3 scantling set edgewise forms the plate, and to this the boards of the side walls are nailed. These boards may be of rough lumber if economy in building is desired. If so, the inner boarding should be nailed on first and covered with tarred building paper on the side that will come within the hollow wall when the building is completed. This building paper is to be held in place with laths or strips of thin boards. If only small nails or tacks are used, the paper will tear around the nail heads when damp and will not stay in place. The cracks between the boards of the outside boarding may be covered with inexpensive battens if they are nailed at frequent intervals with small nails. Ordinary building lath will answer this purpose admirably, and will last many years, although it is not so durable as heavier and more expensive strips. The tarred paper on the inside boarding and the battens on the outside make two walls, each impervious to wind, with an air space between them.

In preparing plans for a building, one of the first questions to be decided upon is the size and form of the house. If the buildings are made with the corners right

angles, there is no form so economical as a square building. This form will enclose more square feet of floor space for a given amount of lumber than any other, but for some reasons a square building is not so well adapted for fowls as one that is much longer than wide. It is essential to have the different pens or divisions in the house so arranged that each one will receive as much sunlight as possible, and to secure this, some sacrifice in economy of building must be made.

We prefer a building one story high, and not less than 10 or more than 14 feet wide, and as long as circumstances require. In most cases a building from 30 to 60 feet long meets all requirements. If this does not give room enough, it is better to construct other buildings than to extend one building for more than 60 feet. It must be remembered that each pen in the building should have separate yard or run, and that a pen should not be made to accommodate more than fifty fowls, or, better, 30 to 40.

The building should extend nearly east and west in order that as much sunshine as possible may be admitted through windows on the south side. The windows should not be large nor more than one to every 8 or 10 feet in length for a house 12 feet wide, and about 17 inches from the floor, or at such height that as much sunshine as possible shall be thrown on the floor. The size and form of the windows will determine quite largely their location. In all poultry houses in cold latitudes the windows should be placed in such a position that they will give the most sunshine on the floor during the severe winter months. One of the common mistakes is in putting in too many windows, while a building that admits plenty of sunlight in the winter time is desirable, a cold one is equally undesirable, and windows are a source of radiation at night unless shutters or curtains are provided. Sliding windows are preferred on many accounts. They can be partially opened for ventilation on warm days. The base or rail on which the window slides should be made of several pieces fastened an inch or so apart, through which openings the dirt which is sure to accumulate in poultry houses may drop and insure free movements of the window.