

As the area devoted to mixed farming increases, the problem of housing farm live stock becomes more and more important. A barn to be satisfactory must combine economy in construction with convenience in arrangement and be so planned as to afford adequate protection from the elements while providing sufficient light and ventilation. With the average farmer, beginning in a new country, economy is a consideration which must not be over-looked and the degree of convenience in the interior arrangement of the farm buildings will often determine whether or not live stock can be kept at a profit. In order to be profitable, live stock must be kept in a healthy condition, and this cannot be done if they are housed in a dirty, dark or poorly ventilated building. In this province we must build warmly to enable us to ventilate properly. If the building is poorly constructed and there is a large loss of heat through the walls then sufficient fresh air cannot be brought into the stable on a cold winter day without unduly lowering the temperature. On the other hand, if the building is warmly built, with the proper number of cattle in it, ample air can be brought in and in such a way as to distribute it uniformly throughout the stable and to maintain it, fresh, healthy and free from hoarfrost. About six hundred cubic feet of air-space should be allowed for each cow, two years old and over. If much more than this is allowed then we find there is not sufficient animal heat given off during the extreme cold weather to maintain a sufficiently high temperature in the stable. Also five square feet of glass per animal will be found to give sufficient light. The windows should be so placed that the sunlight will be distributed over as large a portion of the floor as possible. In fig. 1 a dairy barn 36 feet wide over the studs is shown. With the stalls 3' 6" wide this would allow 546 cubic feet per animal which would probably be slightly over 600 cubic feet when the passages from the feed-alley to the centre passage are taken into account.

For other widths of barns the following dimensions may be used, with the animal's tails together.

WIDTH OF BARN OVER STUDS	FEED ALLEY	WALKS
32'-0"	3'-7"	6'-0"
34'-0"	4'-1"	7'-0"
36'-0"	5'-1"	7'-0"
38'-0"	5'-7"	8'-0"
40'-0"	6'-3"	8'-8"

The length of the stall given in figure 1 is 4'-8" in the clear or 4'-11" to the centre of the curb in which the stanchion is fastened. This could be increased to 5'-4" for large animals and decreased to 4'-6" for small animals.

Figure 2 shows how the roofs may be framed for these widths of barns. Figure 3 shows the arrangement for placing the animals facing a centre feed alley.

FOUNDATION

The foundation should be made of concrete, one bag of cement to five cubic feet of bank-run gravel. It should be carried down until a good hard bottom is reached. It is not necessary to go below frost,