the stalls being arranged in two rows, the cows standing head to head, 10 feet apart. Every day the stable is thoroughly aired while the cows are turned in the yard, so that the air is almost as fresh as in many stables where more expensive systems of ventilation are installed.

I am, however, a firm believer in ventilation in stables, and must say that tile in the walls do not provide for ventilation in accord with what I believe to be right and sufficient..

Wentworth Co., Ont. G. H. CARPENTER.

## Winter Housing of Swine.

It is at this season of the year that the housing of swine becomes a more or less difficult problem. This is more particularly true in regard to the housing of sows due to farrow in the spring. It is chiefly on the housing that the vigor of spring litters depends. The revised edition of Bulletin No. 10, of the Live-stock Branch, Ottawa, treats this question in a very practical manner. It says :

"Much of the success of hog-raising depends upon suitable housing. Suitable housing does not, however, demand expensively-built houses and pens, designed so as to provide summer temperature during the winter season. In an ambitious desire to treat swine with due consideration for their comfort, many progressive hog-raisers have, during the past few years, practically wasted large sums of money in building elaborate, warm houses for their herds. Having wintered their stock, of all ages and conditions, in these structures for one or two seasons, the mistake they had made became apparent by reason of the fact that the swine, instead of showing greater vigor, exhibited signs of ill-health, in the form of coughing, lameness, scurfiness of skin, and other evidences of lack of thrift. The chief difficulty from these close houses is due to lack of exercise taken by the swine kept in them. After rising from their comfortable beds to take their food, which is usually provided regularly, near at hand, and in palatable condition, the pigs fill themselves, and again return to their resting-places. This mode of living, followed for weeks and months at a season of year when outdoor life is uninviting, even should the pen door be left open, is attended with indigestion, constipation, and other forms of sluggishness, causing weak litters, lack of a good milk flow in dams, stunted weanlings, and slow gains in older hogs. Exercise is one essential for swine of all ages, if hog-raising is to be made a success, and it is in not providing this that the warm pen, used for both sleeping and feeding, fails. For young litters coming in cold weather, a warm pen is necessary, and rather close quarters are also conducive to the most profitable gains during a hog's final fattening period, but at no other time in a hog's life is close housing advantageous.

"For brood sows due to farrow in the late winter or early spring months, there is no better shelter than the movable cabin. A number of these can be ranged side by side in or near the barnyard. If kept comfortably bedded, four or five large sows will lie very comfortably in a cabin constructed according to directions given further on. The old style of rail creep beneath a straw stack, so long as it is closed in on three sides, affords a fine bed for breeding sows, or even growing pigs. On some of the most extensive hog-breeding establishments, the only shelter given the sows in winter is an old barn or shed, lined up to keep the drafts out, and having a constantly-open door, which affords free and unlimited access to the open air. The feeding is done in the open, which compels the herd to take a good amount of daily exercise, upon which good health so much depends. Sows thus housed, and fed on food composed of pulped roots and chopped grain, bran, etc., given in a rather dry consistency, will maintain a fine condition for successful motherhood."

The bulletin then goes on to describe in detail the plan, construction and management of various styles of houses that are in successful operation in different parts of Canada. Copies of this bulletin, which should be in the hands of every swine-raiser, may be secured free by making application to J. G. Rutherford, Live-stock Commissioner, Ottawa.

# THE FARM.

## Silo Points for Discussion.

Editor "The Farmer's Advocate" :

Your issue of January 7th contained a very interesting description of a cement silo. Such articles are of great use to the average farmer, and a help to anyone intending to build such a silo. We hope "D. L.," Oxford County, will give us some additional information. How are doors arranged ? What are the sizes and distances apart ? Are they beside the ladder ? Are they and the ladder all enclosed ? And if so, where does light come from for these, and for granary and feed-room ?

We have noticed that some siloes have been started two or three feet below stable floor. Why did not "D. L." do this ? Again, why did not he build a silo 16 feet in diameter, and go up only 30 feet, such a silo holding much more than one 14 feet in diameter and 37½ feet high ? If his stock is at all a large one, he could feed from the 16-foot silo just as well as from the 14-foot one, as none would waste. If, on the other hand, he has a small stock, it was wise to build the smaller diameter. We would think a 16-ft.-in-diameter cement silo, built from a foundation 3 feet below stable floor, running up 30 feet, making 27 feet above floor-level, would be good size; this, of course, where drainage was good. The first ring, of 2 ft. 6 in., being 2 ft. thick, would then be all underground. This size would be convenient to fill and empty. We take it that taper was all on outside, the inside remaining 14 feet in diameter all the way up. How would it do to taper inside, starting at 14 feet, and finishing at 15½ feet ? Would not sides of silage pack tighter ?—an important consideration. We thank "D. L." for his timely article, and in advance for his further explanations. "D. R."

Halton Co., Ont.

Do not overlook the Clubbing Offer appearing every week. If you cannot get your own renewal free, by obtaining two new names, at $1.50 each, club with three neighbors who already take "The Farmer's Advocate," and send in $5.00 for the four renewals.

An Australian Settler's Home in the Bush.

## Blocks of Ice per Ton.

The following table of blocks of ice required per ton is given by Dairy Commissioner J. A. Ruddick, of Ottawa :

| | | | | |
|---|---|---|---|---|
| 12 blks. | 18 in. x 36 in., | 8 in. thick | ..... | 1 ton |
| 15 blks. | 11 in. x 16 in., | 10 in. thick | ..... | 1 ton |
| 8 blks. | 11 in. x 16 in., | 12 in. thick | ..... | 1 ton |
| 6 blks. | 11 in. x 16 in., | 16 in. thick | ..... | 1 ton |
| 5 blks. | 11 in. x 16 in., | 20 in. thick | ..... | 1 ton |

Sometimes a pond of water near the barn or elsewhere on the farm may be utilized for securing a supply of ice. Pure-water ice is preferable, but where this cannot be got conveniently, then the ice from a more or less impure pond many be stored. Such ice should not be put directly into water or anything else to be used for human consumption, though it may be all right for cooling purposes. The freezing of water does not render the ice pure ; it merely suspends the activity of the bacterial life, but many of the germs remain ready to commence multiplying again when the ice melts. Some bacterial forms may be destroyed ; typhoid bacilli will not survive freezing for several months, and some other pathogenic forms, as well, will be rendered incapable of propagating themselves and producing disease, but it is best not to use suspected ice in direct contact with food that is to be used uncooked for human consumption.

## Conveniences for the Housewife.

Editor "The Farmer's Advocate" :

In compliance with the editor's request re conveniences for the housewife, I would say that we have a laundry-room in the cellar, which is found to be of very great benefit and convenience. This room, 11 ft. 6 in. by 17 ft. 6 in., is lathed and plastered, and has cement floor, and a cistern tank 3 ft. 6 in. by 4 ft. by 5 ft., lined with galvanized iron, with a tap just over a drain, where the dirty water is poured out. There is also an old stove, where the water is heated. All our washing is done here, and it is not only a great convenience, but saves the kitchen from being mussed up on wash days. The cistern tank is supplied from the roof, and we have never lacked water. When the house was built, we had the conductor pipe coming down through the veranda roof, and taken in through wall under the veranda floor, but it froze there and burst, so we changed it and took it through the wall just under the eaves, and carried it down inside, and it has been very satisfactory ever since. The drain should not be put in near the corner of the house, and should be laid with not less than 4-inch (6-inch would be better), glazed, jointed tiles, and should have plenty of fall.

We use this room for washing and oiling harness, and find it a great saving of the house and a great convenience, and would not be without it. We also have another cistern to supply the bathroom and washroom, and find this a very great convenience. The cisterns should be lined with galvanized iron, which should be painted, as this preserves it from rusting. Our laundry-room has two windows, and is fairly well lighted, and the cement floor enables it to be cleaned out easily. The cost of fixing up a room for laundry in cellar need not be very great; perhaps from $50 to $80, according to circumstances, length of drain required, etc. D. LAWRENCE.

Oxford Co., Ont.

## Cheap Money for Underdrainage.

How few people realize what a vast transformation underdrainage will effect in a wet farm ! Let me illustrate : In 1906, M. H. Rittenhouse, of Chicago, in endeavoring to beautify the home of his childhood at Jordan Harbour, Lincoln County, became possessed of the farm where now stands the Horticultural Experiment Station, on the southern shore of Lake Ontario, about half way between Hamilton and St. Catharines. He had built the section a beautiful school and a concert hall that are not surpassed in many towns of considerable size, but the road leading from them to the lake was narrow and unsightly. To be in keeping with the beautiful buildings it must be widened and improved, but land for the widening was available only by purchasing the farm lying to the west. This was done, and when two rods were taken off and added to the road, the balance of the farm was given to the Ontario Government as a site for a Horticultural Experiment Station. But it was wet, very wet, so that the first operation in establishing the station was that of draining the land. This was done in 1907. During the spring of that year I surveyed the land for drainage. It was sown to oats—I saw them as they grew, and I saw them in the harvest, and in many parts they were scarcely worth the cutting. But the drains were completed by the autumn, and in 1908 the story has a different ring—65 bushels of oats to the acre on the wettest of it, Mr. Peart, Director of the Station, informs me. What a lesson in the value of underdrainage; a lesson that should not be lost sight of the Province over.

How many farms in Ontario have some land