

mature cattle, such as cows or fattening steers, the feeding values of silage and roots correspond pretty closely to their representative contents of dry matter. Corn silage contains a great deal more dry matter per ton than roots, the totals being 26.4% for silage, 11.4 for Swede turnips, and 9.1 for mangels; although, in respect to protein, the difference is less, being 1.4 for silage, compared with 1 per cent. for roots. There is probably no crop, said Prof. Day, which supplies more feed per acre than the corn crop, though it is a somewhat one-sided food, and must be balanced with others containing a good proportion of protein, and must, also, on account of the acid it contains, be used with a certain amount of judgment.

Cattle-feeders are realizing, in larger and larger numbers, that, though they have fattened steers successfully with roots, they can accomplish the results more economically by using silage, albeit we have always stood and still stand fast to the opinion that it is advisable for most stockmen to use, also, a few roots along with their silage. A peck a day to an animal has a cooling and very wholesome effect, being relatively more valuable than double or treble the quantity.

Hollow Cement Wall.

Editor "The Farmer's Advocate":

The hogpen wall which I built three years ago is on a new plan, namely, the hollow cement wall, which I think is much superior to a solid wall, giving far better ventilation, and being much warmer. In studying out a plan for the erection of said wall, I was up against a rather hard proposition, as I had not the experience of others to help me along. Three prominent features were in my mind as being important in hogpen structure, namely, good ventilation, warmth, and pure water. It was to be built under an old barn, which had to be raised by the use of jack screws, the size being 26 x 56, with another bent added, making it 26 x 48 feet. The raising being done, attended by many difficulties, my next job was to dig a well, which I did, making sure to go deep enough so as to have a never-failing supply of water, the finishing of well being described later. The next work was putting in cement floors, troughs, and a stone wall to build cement upon. As timber was plentiful when the barn was built, the sills were one foot square, just the right size for my plan, which was to allow for a five-inch wall on the outside, and a four-inch wall inside, leaving three inches for hollow space. The inside and outside were firmly studded with an inch strip nailed on both sides of sills, to allow a wedge between plank and studding, that may be drawn out to slacken plank when lifting. The air-space was left by bolting two twelve-inch boards together, face to face, with 2½-inch bolts at bottom, and 2½-inch bolts at top, countersinking head and nut half way through boards. Allowance was made for keys between boards, that may be drawn out so as to slacken boards before lifting. The ends of boards were sawn a little short on lower edge, so that, when being lifted, they would slacken. To bind the walls together, I secured old buggy tires, cut them in pieces 9½ inches long, and bent an inch at each end at right angles with the rest. I placed them across the open air-space about 2½ feet apart. The center boards for making air-space rest upon them until the cement is filled in. When the wall is completed, I think it will be just as firm as a solid cement wall 9 inches thick. It would be very much handier to build a hollow wall for a new building than under the old one.

The ventilators in wall were made by sawing 3-inch tile, 4 x 5 inches long, to suit the wall, putting the tile at the bottom on the outside and at the top on the inside, with a shut-off inside. A short block of wood, six inches long and three inches wide, bevelled so as to give it a firm hold in cement, is placed just above the ventilator on the inside. The shut-off board may be secured to block by a large screw. By means of the above shut-off board, one may control the ventilation according to the condition of the weather.

A wall constructed as described, with air-space in wall from bottom to top, does not frost on the inside nearly as much as a solid wall, therefore making the building much drier and warmer. This is a point of much importance, especially for sows and little pigs at farrowing time. The fresh air coming in at the east and west ends, also from the south side, forces the foul air up the ventilators on the north side. By the above system of ventilation, I have a hen-house and hogpen with the least objectionable odor of any I have ever visited. Having completed the walls, my next study was the finishing up of the well. In travelling through the country, and having had to use water from many wells under barns or near to barns, I have found the majority of them tainted with offensive smell and colored matter, so I thought I would make some improvement. I cribbed the well with boards, starting full size of well two feet below the rack, tapered it up to two feet in width at top, and put in my top 2 feet square with planks,

I then put a curb of cement outside the cribbing, mixed 1 to 6, eight inches thick, firmly pounded it in, filling in the outside of cement with stone, rounding it up about eight inches above the floor, and placed a pump therein. After three years' use, we have water as clear as crystal, without ever having seen a sign of color at any time in the three years.

I would advise anyone who intends to build a wall similar to mine to have their planks sawn 10 inches wide, have edges strengthened so as to prevent the cement from going through and leaving a ridge upon the wall. Planks should also

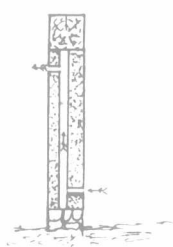


Figure 1.—Section of wall showing air space in center; also inlets for fresh air.

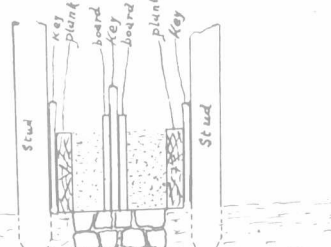


Figure 2.—Section showing planks and boards set for making the first "lift" of the wall.

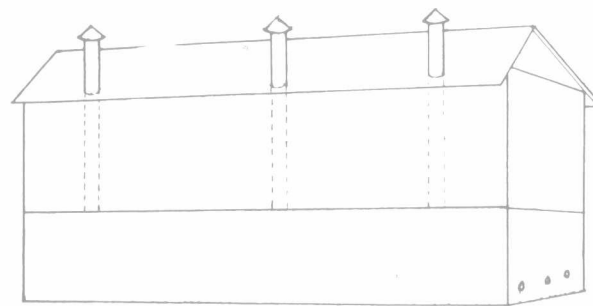


Figure 3.—View of barn, showing foul-air outlets in roof; also fresh-air inlets near ground.

be planed on both sides, as they are very liable to warp, and you can then turn them. Ventilation boards should also be planed the side which goes next to cement. Planed and bolted as described above, they may possibly be lifted without slacking keys; if so, it would save a lot of trouble. Form planks being planed would leave a wall with smooth surface, and save the trouble of plastering.

N. DAY.
Victoria Co., Ont.

Cement and Cement-block Silos.

We were interested to learn, a fortnight since, in the vicinity of Ayr, Ont., that quite a few silos are going up on the farms of cattle-feeders, and this is only representative of what is occurring in other progressive beef-making sections. As to kind of silo, there is some difference of opinion. For those who have not their buildings permanently arranged, the stave silo is to be recommended; some prefer it even as a permanent silo, and, when one uses good material, fitted together and well put up, it gives satisfaction. However, the majority of those who have their buildings permanently arranged prefer a cement wall; others prefer hollow cement blocks, which, though more expensive, look better, and to some extent reduce the trouble from freezing in cold weather. A few comparisons of the cost of cement-block and solid silos in the vicinity of Ayr will be read with interest.

John W. Maus has had a cement-block silo put up, 14 feet in diameter inside, by 35 feet high, for \$325. In addition, Mr. Maus hauled the gravel, dug the excavation, and supplied the water. The blocks are nine inches thick, about twenty inches long, and eight inches deep. Mr. Maus filled his silo last fall with 7½ acres of White-cap Yellow Dent corn, refilling once after it had settled three feet. It settled again about eight feet before feeding commenced in December.

A solid cement silo of the same height as Mr. Maus's, but only 12 feet in diameter, was built by William Manson at an expense of \$135, and \$35 extra for a roof. The contractor who built Mr. Manson's silo had an unfortunate experience, which it might be well for readers to note. It was undertaken, if we remember aright, late in the fall of 1909, and part of it collapsed twice in the course of construction, so that it was eventually left over until the next year. Mr. Manson thinks the mishap was probably due to the fact that the silo was built late in the fall, during cold, wet weather; and, as the contractor had only two frames, a section was left unsupported before it had properly set; the collapse occurred at the same point both times. This silo is eight inches thick from bottom to top, though a battered wall would be economical of material. The local contractor's ordinary rates for building a silo of this kind are \$135, roof and all complete. A very good feature of Mr. Manson's arrangement

is that the chute extends clear to the top of the silo, thus obviating the necessity of having a ladder outside by which to scale the silo when filling. The steep, conical roof on the silo is another good feature, as it is possible to pile into this a good deal of cut corn, which can be levelled down in a day or two as the fresh-cut corn settles. We should add that Mr. Manson supplied gravel and water, and boarded the men.

James Kyle is another believer in silos, having had one for a good many years. He is also a strong believer in alfalfa, which he finds the most valuable hay that can be got. He is of the opinion that, with plenty of good corn silage, alfalfa hay and roots, he can keep breeding cattle in good condition without any grain, and considers that such a ration is better for them than heavy feeding of meal. The thrifty condition of his herd lends convincing support to his opinion. Alfalfa and corn should go together. Corn silage forms the basis of an economical ration; alfalfa supplies the protein, which is somewhat deficient in the corn.

Goitre in Lambs.

Goitre in sheep is an enlargement of the thyroid glands on both sides of the windpipe, just below the jaws, and not unlike a kidney in shape and character. It is found most frequently in newborn lambs, and notable in late spring lambs whose dams have had too little exercise during the winter, and, having been liberally fed, are in high condition. The lambs affected with this disease are generally born weak, fat, and covered with a thin covering of hair, rather than of wool. Some die, giving a few gasps, immediately after they are born, others in a day or two, and occasionally one survives for months, but, as a rule, the enlargement grows until it affects the breathing and the thrift of the animal, and sometimes causes sudden death. Many reasons have been advanced for the prevalence of this goitre in newborn lambs, but experienced shepherds mostly attribute it to lack of exercise of the ewes and too liberal feeding of turnips or other roots. The writer, after experiencing many losses with such feeding, abandoned the giving of roots before lambing, and thereafter had no trouble with goitre. In cases where the lamb having goitre has strength to survive, the enlargement may be reduced by clipping the wool or hair from the part and painting it repeatedly with iodine; and, in the case of a strong, grown-up sheep suffering with this trouble, the cure is to cut into the growth quite deeply, and just as soon as it has ceased bleeding inject with a small syringe a small quantity of full strength tincture of iodine. The enlargement should also be painted with iodine at regular intervals, say once in two days.

THE FARM.

How to Grow Corn.*

One of the essential points in growing corn is to have the land well tile drained. I would select clover sod, on clay loam, plow it in the fall, and in the spring apply nine loads of manure to the acre with the manure spreader. If not plowed in the fall, apply manure in winter. Plow early in the spring, in order to have the frosts pulverize the ground. If I hadn't the manure, I would use fertilizer when planting. When the manure is on, disk the land twice in a place both ways, then harrow it both ways with the smoothing harrow, and keep cultivating at intervals until planting time. Then, I would roll the land ahead of the planter.

The only proper way to select seed corn is from the stalks, standing where they grow, as soon as ripe, and before the first hard frost. Avoid the large ears on stalks standing singly, with an unusual amount of space around them. To induce the plant to produce heavily of sound, dry, shelled corn, is the important object. The kernels should be of a uniform size and shape, making it possible to secure uniformity in dropping with the planter. In testing, a few kernels should be pulled out, and if the germs are well covered, they will grow better than without being covered. It is a good plan to plant some kernels in a box, and keep them in the house at night, and put them out in the sun in the day time. Take care that you count the kernels, and then you can tell how many will grow. Plant as early in May as the ground and weather will permit.

Harrow both ways as soon as you see the corn coming up. If the ground is dry, as soon as you can see the corn nicely in the row, start the two-horse cultivator. When the corn is about five inches high, hoe it, and then cultivate it both ways until it is too tall for a two-horse cultivator. Then cultivate it with a one-horse cultivator, so as to keep the soil in good condition and to liberate plant food.

When the ears are all well glazed, get a good corn binder and cut it. Have a sheaf-carrier on it, so as to place the sheaves in rows, to save steps when shocking. Set up in good-sized shocks, and tie with binding twine around the