

MARCH 23, 1911

all the dust, chaff, cobwebs, dirt, filth, bacteria, etc., that could gather in a generation.

(b) The high-front wooden manger of more recent introduction, and, I am glad to say, of more widespread use to-day than the first-named ancient contrivance. This manger frequently rises to the level of the eye of the animal, and is usually closely built next the feeding passage.

(c) The cement manger, with the front or division between the feed passage and the manger, from 2 to 3 inches above the level of the said passage.

(d) The cement manger, with the feeding passage 6 to 8 inches higher than the bottom of the manger, and with no division or partition between the feed passage and the manger.

(e) The manger, or, rather, the entire absence of manger, where the feed passage or floor and the bottom of the manger are on the same level.

In any of the above-mentioned types of manger it is possible to have a division between the cows in the manger, hence the question whether there should be a division or not, may safely be neglected in dealing with the advantages or disadvantages of the types mentioned. This division is largely a matter of the convenience or the peculiar requirements of the farmer interested. If he is anxious to keep track of the exact amount of feed consumed by individuals in his herd, then the divisions are probably necessary; otherwise, not.

Comparing briefly the advantages and disadvantages of the different types of manger, it would seem hardly necessary to spend any time upon the first-mentioned contrivance, which serves, as already mentioned, as a center of attraction for every description of dirt, and is absolutely inadmissible in a modern stable. The second type—that is, the high-fronted wooden manger—has several things in its favor. It holds the feed in front of the cattle, and prevents any danger from straining in search of food that may have escaped from the manger. It is, however, objectionable on two scores: (1) It is not as convenient a manger for feeding purposes as the third, fourth and fifth types; and, in the second place, it prevents free circulation of air around the animal's head while eating; and (2) on account of its peculiar construction is likely to prevent frequent cleanings, and so encourage the lazy feeder in allowing more or less decaying matter to gather, giving rise to evil odors, and allowing the mixture of more or less rotting material with the feed, as consumed day by day.

The low-fronted cement manger has the advantage over the wooden-fronted manger, that it is usually constructed to such a height only as will not materially interfere with convenience of feeding, and that any food tumbling over the other edge onto the feed passage is not likely to fall so as to be in sight of the animal, thus relieving her of any anxiety as to regaining it. Such a manger has also the advantage that, being low, and having a round cement bottom, it is much less likely to serve as an excuse for the lazy feeder, since any food left will be plainly in sight, and any but the most careless would feel called upon to remove the same from in front of the cattle at short intervals.

The fourth type of manger—that is, where the feeding floor is 6 to 8 inches higher than the bottom of the manger—is one that has many advantages, and some disadvantages. In the first place, if properly constructed, it retains the feed in front of the cattle quite effectually, very little escaping, excepting in cases where animals have, for some reason or other, formed the habit of tossing the head when eating. In the second place, it is the most convenient for feeding. In the third place, it is an exceedingly simple manger to clean out, and no possible excuse can be raised by the feeder for leaving any left-over feed lying in front of the cattle. It has the objection that, where no feed-room is in use, the feed passage in front could not very well be used for the preparation of the feed. Further, where the stable is not swept daily, it might lead to the gathering of dirt in greater or lesser quantities in this passage, which might possibly find its way into the manger, and so interfere with the quality of the feed received by the animals. It has, however, the great advantage of presenting absolutely no interference with the circulation of air in front of the cattle, and is undoubtedly the most hygienic of the various classes of mangers mentioned.

The fifth type of manger described, where the feeding floor and bottom of the manger are on the same level, is open to the objection that, as there is no boundary, the feed is almost sure to work away from what might be called the range of eating of the animal, and so excite efforts to reach space, which might have injurious effects upon the animals, sometimes possibly resulting in strained tendons, or even in broken legs.

Of all the types mentioned, I am inclined to favor the cement front or the raised feeding passage—that is, either third or fourth, as described above—with or without partitions between cattle according to the requirements of the feeder.

Stanchions have, I believe, come to stay. The chain stanchion permits of quite as great

freedom as could be given by any possible device for tying animals, and at the same time does away with the necessity for partitions between cattle, other than simple iron pipes, or some similar contrivance.

The chain tie is open to the objection that it is impossible to do away with the dust and dirt-gathering partitions, no matter where the chain is attached. Probably the most objectionable type of tie is the stanchion set in rigid frame, and the space between stanchions filled with a board or stakes to prevent animals reaching around. Such contrivances for tying animals are little short of barbaric, and the farmer who, in these days, installs such a system of tying his cattle should most certainly be prosecuted for cruelty to animals.

J. H. GRISDALE,
Dominion Agriculturist.

Ventilation.

Editor "The Farmer's Advocate":

Your correspondent from Haldimand Co. also asks for some information about ventilation of stables.

The ventilation of cattle barns is a simple matter, provided the proprietor or man in charge is willing to give it the necessary attention after having installed the proper system of ventilation. There are, however, two difficulties to be overcome before satisfaction is assured. In the first place, it is quite an undertaking to get even the most intelligent farmers to appreciate the importance of having an ample intake, and outlets sufficiently large to allow for the escape of foul air. The system once installed, if one may judge by what one sees in stables where ventilation systems are already in existence, it is almost as hard to persuade the man in charge to put the system into operation, or to allow the system of ventilation to operate, as it is to instal the system in the first place. Practically every cattleman, and many men who are not cattlemen, but who are looking after cattle, seem to think that their chief duty in looking after cattle is to protect them from the faintest vestige of fresh air in cold weather. Consequently, many stables, with ample provision for ventilation, may be met with where the air is heavy and damp, where the walls and ceiling reek with moisture, and where the cattle look depressed and dull—all due to the lack of fresh air.

After many experiments, and a thorough good test of practically every imaginable method of admitting fresh air, and allowing for the exit of foul, I have come to the conclusion that the most practicable, the most cheaply installed, the most easily operated, and the least likely to be found wanting under the greatest variety of circumstances, is the Rutherford system of ventilation.

This system allows for the admission of fresh air at or near the floor level. In arranging for the intakes, it is necessary to so construct as to direct the incoming currents of cold, fresh air upwards, rather than outwards or horizontally across the room. In arranging for the outlets, care must be taken to have same sufficiently large and as free as possible from bends or obstructions, in order to permit of the rapid escape of the warm, moist air. These outlets should, of course, begin at the ceiling, and if the ceiling

has different levels, one, at least, should start from the highest point of the ceiling. The outlets should also be controlled with keys, similar to those in a stovepipe, in order to have thorough control of the escaping warm air. Further, these outlets should extend a foot or so higher than the highest part of the roof of the building. They had better come out of the building at the peak of the roof, but may come out at any other point, provided that the shaft is extended to the height mentioned.

The capacity and arrangement of the intakes and outlets is a matter of considerable importance. In the first place, the total cross-section area of the intake should allow at least 15 square inches per head of cattle or horses included in the stable; that is, there should be about one square foot of intake for each ten head. The outlet should have double the capacity of the intake; that is, there should be at least 30 square inches of outlet for each head of cattle or horses in the stable.

The intake openings should be distributed in such a way as to permit of the air entering from as many sides as possible. No openings should, however, be less than 4 inches wide and 10 inches long. The intakes should not be controlled; at least, if best results are desired, it is not, generally speaking, advisable to put it within the power of the herdsman or cattleman to control the intake of fresh air. Of course, in extraordinarily cold weather it might sometimes be desirable to have some control over the intake, but this can be easily done by throwing a thin band of cotton or sacking over the opening, so decreasing the rate of inflow.

The outlets should never be less than 18 inches across. Shafts smaller than this are unsatisfactory. In the first place, they are almost certain to sweat; and, in the second place, do not permit nearly as much air to escape, relatively to their size, as do larger shafts.

The outlet shafts should, as already indicated, begin near the ceiling. They should also be placed as near the center of the building as possible. Further, the outlet shafts had better be constructed with two layers of board, with an air-space between. Sometimes, when constructed of single boards, matched, they prove satisfactory, but it is usually better to build of two ply of boards and air space.

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Dominion Agriculturist.

Corn Silage for Steer-feeding.

Steadily the silo wins its way, not only into the dairy sections, but on the farms of beef-raisers as well. There is no question in anybody's mind about the value of roots for feeding cattle. No more should there be any doubt about the value of silage, notwithstanding the remarks we sometimes hear about "pickled cornstalks." Which is the better for feeding cattle, roots or silage, it is not necessary to discuss. Probably, on the whole, roots are rather safer, and may be preferred for feeding exhibition cattle, though even here a combination may give the best results. The great point in favor of the silo is that silage is a more economical food to produce than roots, at least in sections where corn does reasonably well. We believe this point was pretty reasonably dealt with by Prof. Day, when, in speaking at the Ontario Winter Fair, last December, he stated that, for



Strowan Clarion.

Shorthorn bull, twenty-two months old. Purchased by William Duthie, Collynie, at Birmingham Show and Sale, for 1,500 guineas.