

FARM AND DAIRY & RURAL HOME



We Welcome Practical Progressive Ideas.

Trade increases the wealth and glory of a country; but its real strength and stamina are to be looked for among the cultivators of the land.—Lord Chatham.

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Why Ventilation is Necessary in Dairy Stables

And a Few Suggestions on Installing a System.—By E. L. McCaskey

IN the last couple of years there has been a strong and growing tendency to condemn the stable of the bank barn. There have been several letters published in Farm and Dairy dealing with the subject. Only a few weeks ago, a writer signing himself "Breeder" condemned the bank barn in scathing terms. He stated that the bank barn is not fit for implements, much less for stock, that no man would think of keeping his family in a basement, therefore he should not keep his dairy cows in one.

Now I have a bank barn. Practically all my neighbors have bank barns. I do not propose to tear mine down, and couldn't afford to if I would. I believe that with proper ventilation and lighting the stables of our bank barns are as healthy as any. It is a reasonable topic, and I would like to say something on this subject of ventilation, dealing particularly with these bank barns and every other kind of barn deserving of the name.

The barn in which I did chores as a boy had no need of a ventilating system. There were cracks one inch wide between the logs of the walls and one needed to dress just about as warmly inside doing chores as he did outside chopping wood. There was an over-plus of fresh air in that old stable, and chores, as I remember them, were not even as popular with the boys as they are now. However, we did not lay great stress on the cattle end of the farm in those days. Now that dairy cattle are our main money-makers, we have better buildings, the cement walls are absolutely tight, the windows and doors are put in carefully and they, too, are tight. In fact, many of our stables are so well built that fresh air does not get in at all, unless we make provision for it.

Amount of Air Needed

Live stock need fresh air just as much as they need hay and water, and in every good stable provision should be made for getting it to them all the time, not by an occasional opening and shutting of a door. Professor King, whose works on agricultural science I value highly, has stated this need of fresh air in a very striking manner. He found that if it were necessary to supply air to our live stock as we do water for instance, a dairy cow would require six pails of fresh air every minute, a horse seven pails, a sheep 1.5 pails and a pig 2.3 pails. This amount would supply air fresh and pure with each inspiration.

I have never yet been in a stable where the ventilating system was so good that none of the air was ever re-breathed, but the nearer we can come to this and keep the temperature reasonably comfortable, the nearer we are to proper conditions. Every time the air passes through the lungs of the animal, it loses one-fifth of its oxygen, and if such air must be re-breathed it is not as "nourishing," and a constant re-breathing

of such air lowers the vitality and health of the live stock. At the same time in exhaling, an animal expels carbon dioxide, which is a poisonous gas, and certain organic matters which are even more poisonous than the gas. In many of our tight, modern stables, without a modern ventilating system, the air is poisonous and filthy.

To Avoid Dampness in Stables

A point strongly emphasized by "Breeder" was the dampness of the bank stable, and his contention is too true. A good-sized cow will exhale in addition to carbon dioxide gas, 10½ lbs. of water in the form of vapor each day. We must get rid of this excess moisture in the atmosphere. A ventilating system does it. The cold air outside of the stable in winter, has small water holding capacity and comparatively speaking it is dry. When this air is brought into the stable it warms up, and its water holding capacity is much greater, and it absorbs the moisture from the cow's breath. If this air is in turn drawn off by the ventilating flue, it carries the excess water with it. A stable that is perfectly ventilated will never show dampness on the walls.

UTOPIA

By George Gilbertson

*In youth, as I lay dreaming,
I saw a country fair,
Where plenty sheds its blessings down,
And all have equal share;
There poverty's sad features
Are never to be seen,
And each soul in the brotherhood
Scorns cunning arts or mean.*

*There honesty is reckoned
Something above a name,
And men perform their kindly deeds*

*For nobler meed than fame;
There labor is respected,
And reaps its due reward,
And idlers in the brotherhood
Would meet with scant regard.*

*For long have I been seeking
And still confess with pain
I never yet have found the land
I long to see again,
Still, as my years run slowly,
Mingling with life's great stream,
I hope to find the brotherhood
I saw in that young dream.*

This is the theory. There are a couple of practical points that prevent its properly working out in the majority of stable: that I have been in. As soon as the air gets cold again, it loses its water holding capacity and must deposit the water vapor as water. Cement and stone walls in basement stables are practically as cold as the air outside, and when the air of the stable cools down against these walls, it deposits its moisture on them. The only way to get around it is to insulate the walls by putting up a partition an inch or two in from the wall with tar paper and matched siding. Again, in the ventilating flues which carry off the foul air, unless the flues are well made and insulated, the air will cool before it reaches the top and moisture will be constantly running back down the flues and into the stable.

Installing a Ventilating System

I have taken up so much space that I will have to describe the installation of my ventilating system very briefly. It is the King system, and has always given perfect satisfaction. On each side of the stable, the air is taken into flues at the ground mark outside and carried up to the ceiling, where there is an opening into the stable. No provision for these flues was made when the cement walls were erected, but when we put the insulating partition inside, all that was required was to break a hole through the cement at the bottom and the fresh air goes up between the studs to the top of the stable. On each end of the stable, we have flues running to the ridge of the barn. These are made of two-ply of lumber, with two-ply of tar paper between. There is an opening into the flues at the stable door and again at the ceiling. In cold weather the opening at the ceiling is closed and the cool, foul air is drawn off at the floor. This system works almost automatically and keeps the air fresh and the stable dry. Without such a system I would be as hard on the bank barn as "Breeder" or any other of the writers whose opinions I have read in Farm and Dairy. With our ventilating system I consider the stable of the bank barn most desirable from the standpoint of convenience and warmth.

The farmer with only a few animals can hardly afford to keep pure-bred males. Yet he cannot afford to use scrubs. One solution of the problem is for several neighbors to club together and secure the pure-bred sires needed. This will really make the cost of the pure-bred sire less to each farmer than would be the cost of scrub sires if each owned one.

The latest discovery in the realm of agriculture is that the farm is not merely a great laboratory where by wonderful processes of combination and growth the food of the world is produced, but a home as well; and that any true agricultural science must look beyond the crops and live stock to the family on the farm, the men and women living there, the boys and girls growing up.—"La Follette's."