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EDITORIAL.

Is the Basement Stable a Success?

The above heading voices a doubt long obtruding itself on some minds, whether the common two-story barn, with the stock below in a stone, brick or concrete basement, is the success which many take it for granted to be. Go into many such stables of a morning now, and more or less chill will be felt. It may not be cold according to the thermometer's tale, but it will feel more so than a wooden stable at several degrees lower temperature. Moreover, it will be much the same story all winter long, and in the depth of January, one of the best ways to make a man shrink away from his clothes is to set him at work in and about some of these basement stables. When a mild day comes after a cold spell, the stable atmosphere will be damp from the melting of hoarfrost that had accumulated on windows and masonry walls; and when another cold snap occurs, it will be intensely felt by reason of the moisture in the air. It is well known that moist cold air abstracts heat from the body at a much faster rate than dry cold air—hence the chill of a damp basement stable.

Why is the basement barn damp? There are two or three reasons, which dovetail with one another. A stone wall is a good conductor of heat, which is another way of calling it a poor insulating material. Brick and concrete are only a few degrees better. The effectiveness of the masonry wall in keeping up the temperature depends largely on its tightness. It seals the stable up, as it were, but does not prevent heat being lost through the wall by conduction any more than the corking of a hot-water bottle would prevent the water from cooling.

There are two ways in which heat may be lost through walls. One is convection, viz., interchange of inside with outside air. This has the compensating advantage of providing a measure of ventilation, which helps to dry the air, removing gases and vapors and introducing more oxygen, to enable the animals to generate more body-heat, and thus withstand the cold. Ordinary wooden stable walls lose more or less heat by convection.

The other way is conduction; that is to say, the heat passes from inside air to wall, and from wall to outside air. A stone wall loses little or no heat by convection, but even a fairly thick one will lose much by conduction. Consequently, in order to keep the temperature up to what is considered a proper degree, windows and doors must be kept pretty well closed up and ventilators not too wide open.

Take two stables, one with wooden and the other with 18-inch stone walls, both so constructed and kept as to prevent manure freezing. It will be found that the stone stable has much the closer, damper atmosphere.

Cannot the difficulty be overcome by a good system of ventilation? To some extent it may; but the trouble is that admission of sufficient cold outside air tends to lower the temperature, and this, together with the loss of heat continually taking place by conduction through the stone wall, makes the stable colder than would be the case with a proper wooden wall affording the same total amount of ventilation. We have been in a great many basement stables ventilated by various systems—some of them very expensive—and have yet to find the second one that was at all times as dry and comfortable as we deem desirable. The one exception implied was in a barn described in "The Farmer's Advocate" last winter, where the intake air was warmed by being

conducted for quite a distance through underground tile before being diffused into the stable. This permitted the admission of copious quantities of fresh air, without making the stable too cold. With the ordinary attempts at ventilation—which in too many cases, means scarcely any at all—we cannot keep our stables warm enough, dry enough, and as well ventilated as they should be, unless we build the walls of some better insulating material than stone or concrete. Wood and building paper are very much better in that respect, and, by using enough of them, warmth, dryness and ventilation may be secured. Masonry may be all right for a house where artificial heat is supplied by fire, but even here we find stone is not in favor.

Dryness and ventilation are more important than high temperature. Many now prefer to have a wooden-walled stable in which the manure freezes a little, than a basement stable where it does not, but it is possible to have the wooden-walled stable as warm as and much drier than the other.

When basement stables first came in, they were hailed as a great advance over the old barns in which the wind swept under a raised plank floor. If we except those known as "bank barns"—now unequivocally condemned—doubtless, on the whole, they were an improvement, but they are far from representing perfection in stable construction.

Now, to overcome the drawbacks above set forth, two ideas suggest themselves. One is to build the stables as low annexes to the main barn. We expect this will strike many as heterodox, but, considering the lightness of frame necessary, the simplicity of construction and the ease of ventilation, it is a question whether such a barn would be so very much more expensive to build than the compact, high-standing basement barn. As for convenience of feeding, the silo and modern litter-carrier have, to a large extent, obviated the advantage of having the stable under the feed mow. However, if the two-story barn be still considered more economical to build and maintain and to work in, what is to hinder us from building the lower story of frame, set on a stone or concrete wall a foot or so in height? We have been told of such barns giving excellent satisfaction, and believe the idea worthy of consideration. Certainly, anybody who contemplates the effect of ill-ventilated, damp stables on the health of succeeding generations of cattle and men, will consider a few extra dollars expended in improving stable atmosphere to be wisely invested indeed. It is hard to estimate how much tuberculosis in stock, and how much catarrhal, bronchial and allied ailments in human beings may be laid to basement stables, which, besides being chilly, are often dark, for the thickness of the wall allows a window of usual size to distribute in the stable only about half the amount of light that would pour through the same-sized window set in a three-inch or four-inch wooden wall.

In poultry houses, they are getting away from the close house and finding a light, dry, airy pen to be the ideal winter quarters. Is it not time to apply similar principles to the stabling of domestic quadrupeds, especially horses, hogs and sheep.

We know of no more important practical farm question than this one of stable temperature and ventilation, and our columns will be open for its discussion this winter. Take careful note of conditions in your own and your neighbors' stables, and write us your convictions on the subject. In multitude of counsel there should be wisdom.

In education it may be well to polish college benches, but it has been proven that any course of study is defective that does not polish plow handles.—[John M. Stahl.

British Estimate of Canada.

The Financier, of London, Eng., a well-known monetary and business publication, some time ago despatched its editor, Mr. R. J. Barrett, a competent observer, to make a tour of Canada, in order to "size up" the situation here, especially from the British investor's point of view. His matured conclusions, as expressed in a series of articles in the Financier, may be summed up as follows:

In Canada, undoubtedly, we have a country of illimitable possibilities—one that has, indeed, achieved most wonderful results. Her position is sound.

Canada is on the eve of a period of commercial development only equalled in the history of the United States of America.

The only drawbacks are want of capital and labor. There are numberless openings for the profitable investment of British capital. The principals of leading British industries have gone to Canada to study the conditions. For business men with a capital of from \$1,000 to \$5,000, Canada presents chances not to be found elsewhere.

Americans are keenly alive to the great commercial and agricultural possibilities of the country, and are flocking over the border in their thousands. Some people here are nervous lest the influx of Americans should weaken ties that bind the great Dominion to the motherland. Of that there need be no fear. The ties are indissoluble, and incoming Americans make good Canadians. The laws they find are excellent, and what especially appeals to them—are well administered.

The Bank Act of Canada is the finest Banking Act in the world, resembling the Scottish system.

In Canada there are millions of yet unoccupied acres of the finest wheat lands in the world.

The country is crying out for skilled mechanics and labor for the railroads. Clerks and "remittance men" are not wanted.

Cobalt is the richest silver camp in the world, and is alone worth a journey to Canada to see.

Canadian cities are spending millions on new buildings, built for permanence, imposing, well-equipped, and up-to-date in all respects.

A Tariff Forecast.

At a complimentary banquet tendered Hon. W. S. Fielding in Montreal last week, the Finance Minister gave a forecast of the Tariff Bill, about which interest chiefly centers at the present session of the Canadian Parliament. He intimated that great changes would not be made, although there will be some, but that the Government would adhere to the policy of a moderate tariff and to the principle of giving the goods of Great Britain a substantial preference, as compared with those from foreign countries. There will also be a schedule discriminating between the products of countries anxious to trade with Canada and those putting up tariff bars against Canadian products. On the whole, the avowed aim of the Government was to prepare a tariff that would commend itself to the masses of the people.

"The Farmer's Advocate and Home Magazine" is more than an ordinary agricultural journal. One of its strongest features is the Home Department, which is eminently practical in all its literary and domestic features, and not only an inestimable help to the farmer's wife, but a source of inspiration and pleasure to every member of the household. The Home Magazine alone is worth more than the subscription price to everyone who desires reading matter of the highest class.