

of the lungs, to keep up the heat of the body. The colder the weather the more charcoal must be burned in the system to keep up the requisite heat, and if the animal, quadruped or biped, human or brute, be exposed to currents of air, even though the thermometer does not indicate any lower degree of temperature, these currents carry off the animal heat more rapidly, and a larger amount of charcoal must be consumed to keep up the warmth necessary to life. If all the food the animal can assimilate must be expended in keeping itself warm, how much milk or how much fat, or how much muscle, can be expected. And just in proportion as the quantity of food used up in producing warmth is greater, in the same proportion will the amount that can be used in the production of muscle, milk or fat, be less.

If any one will take the trouble to make a wooden tube, say that it is two feet square and one hundred feet long, place one end of it in his barn and let the other extend along the ground towards the west, and hang a thermometer at each end in such a position that it will feel the current of air that sweeps through it on a windy day, he will not find much difference in the degree of cold indicated by the two thermometers. But let him now insert some wire screens, fastened on a frame that will fit into the tube, and he will find that the thermometer at the end in the barn will rise, and indicate a warmer temperature as the number of wire screens placed in the tube is increased, or the mesh of the screens is made finer.

This, then, demonstrates that the cold of the wind is lessened by being made to pass through the screen of a forest, and the finer the screen the better will it ameliorate the temperature.

But this is not all; the trees present such a barrier to the winds that the strong currents of air are forced to rise and fall over the tops. The winds can no longer creep along the ground, sweeping off from the fields every vestige of snow, and often the dry frozen earth itself, but must bluster and rage far overhead.

Cannot every farmer see in this the comfort of himself, his family and his stock; a certain amount of food saved, or laid up in muscle or fat, or returned in milk, being no longer used to keep up a fire of such intensity, in order to enable the animal to withstand the cold blasts? Can he not see that it is fuel saved in his own house; that his orchard is kept in a more even temperature, that his wheat is covered evenly with snow, the best and most natural winter covering; or if that have not fallen, the roots are not laid bare by the sweeping away of the earth.

By this it is not meant that it is necessary to restore the forests. Far from it. But it is of the greatest importance that every farmer should plant a few rows of trees on those sides of his farm most exposed to high cold winds. If every farmer would do this, and particularly so as to shelter his orchard, there would be much less complaint of failure of the fruit crop, of sunscald, of borers of various kinds, and trees dying from unknown causes. The increased return from his orchard alone would soon repay all the cost of planting.

But will the farmers do it? In some places (not in Ontario) the township councils have been authorized and have passed by-laws, whereby every hundred trees planted for shelter, and maintained in good growing condition for one, two and

three years, vouched for in a prescribed way, are credited on the assessment roll to the farmer so planting and maintaining them at a prescribed amount, and allowed to him in reduction of his taxes.

Would our farmers avail themselves of such an opportunity, and take pains to send to the township councils men pledged to enact and carry out such a by-law? There is a lamentable indifference among us to every improvement that will not yield immediate returns. The present generation can see no reason for doing anything for posterity, simply because posterity has done nothing for it. Upon such narrow selfishness is its action too often based. But we believe a more just and enlightened view is beginning to take possession of the public mind. Have parents any higher worldly aim than the comfort and happiness of their children? And if what they plant to-day shall be an advantage to some or all of their children, will they grudge them the outlay?

Ten years soon pass away. In that time trees judiciously planted and cared for, mingled evergreen and deciduous trees, will begin to exert their beneficial influence. Most of the active men of the day may hope to live long enough to enjoy the benefits of their planting; and if they do not live to enjoy it long, is there no satisfaction in leaving, in the trees they have planted, that which shall be a memorial of their wisdom and forethought? A monument more lasting than brass; loftier than the royal pyramids of Egypt.—*Globe*.

WHAT I KNOW OF FARMING.

DRAINING—MY BLUNDER.

Not only had I had no real experience in draining when I began, but I could hire no foreman who knew much more of it than I did. I ought to have begun by securing an ample and sure fall where the water left my land, and next cut down the brooklet or open ditch into which I intended to drain to the lowest practicable point—so low, at least, that no drain running into it should ever be troubled with back water. Nothing can be more useless than a drain in which water stagnates, choking it with mud. Then I should have bought hundreds of hemlock or other cheap boards, slit them to a width of four or five inches, and, having opened the needed drains, laid these in the bottom and the tile thereupon, taking care to break joint by covering the meeting ends of two boards with the middle of a tile. Laying tile in the soft mud of a bog, with nothing beneath to prevent their sinking, is simply throwing away labor and money. I cannot wonder that tile-draining seems to many a humbug, seeing that so many tiles are laid so that they can never do any good.

Having by successive purchases become owner of fully half of this swamp, and by repeated blunders discovered that making stone drains in a bog, while it is a capital mode of getting rid of the stone, is no way at all to make drains, I closed my series of experiments two years since by carefully relaying my generally useless tile on good strips of board, sinking them just as deep as I could persuade the water to run off freely, and, instead of allowing them to discharge into a brooklet or open ditch, connecting each with a covered main of four to six-inch tile; these mains discharging into the running