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Agriculture.

Top-Dressing Spring Wheat.

EDITOR CANADA FARMER.—I made an experiment to show what can be done by top-dressing spring wheat. The land was of fair quality but much in want of manure. On May the 17th, sowed 8½ acres with black sea wheat. Weather cold and wet; not well got in, top-dressed May the 24th, per acre, with 100 lbs. salt, 40c., 1 bushel ashes, 20c., 100 lbs. plaster, 60c., 55 lbs. superphosphate ammoniated, $1.10, from Brockville, 18 lbs. sulphate of ammonia, $1.08, carriage and sowing, 32c. per acre, $3.70. It grew strong and evenly, no short or weak stalk, 3 feet 10 inches high. Straw strong; the storms sometimes laid it, but it got up again, I believe owing to the salt. It appeared to give 42 bushels to the acre, but the maggot hurt it very much. On 8½ acres there were 519 stocks of 14 good sheaves each, some of it was threshed and gave 2 lbs. 2 oz. of wheat and 5½ lbs. straw each sheaf, or about 30 bushels of wheat and over 440 lbs. straw per acre. The maggot destroyed not less than 12 bushels per acre.

Bell's Corners, Ont. JOHN ROBERTSON.

The Irish Method of Stooking.

A writer to the *Banffshire Journal* commends strongly to his countrymen and all others interested, the superiority of the Irish method of stooking grain to prevent it sprouting. In contrasting it with the Scotch plan, he says:—"The Scotch stook consisted of 12 large sheaves, with two sheaves drawn slovenly on the top, put up in a slanting position, thereby exposing the corn, scattered with strong gales of wind, completely at the mercy of the elements, as of late seen in this country. The Irish stook is the very reverse; it is built quite straight, compact, and firm, with no corners, and the ties of bands inwards, so as to have the grain quite covered, the cape sheaves being very firmly and ingeniously fixed by drawing and tying a small handful of straw across each sheaf, rendering the whole stook compact and firm, and incapable of being upset by strong gales of wind. So far from the grain and straw being exposed to the injurious influences of the elements, all rain, dew, and sun are excluded, but the wind penetrates it through and through. To fix the cape sheaves carefully two persons are required, one of whom may be a female, but from the stooks being more than double the size, a field is more speedily and cheaply stooked by the Irish than by the Scotch method. The Irish farmer happens to reside in an exceedingly moist and rainy country, and long experience has suggested this most excellent kind of stoop, Pat having a way of his own for solving knotty points. If he gets his crop cut and dry under caped stooks his mind is made easy if it should rain "cats and dogs" for six weeks thereafter, well aware that at the end of that period a cessation of rain for a couple of days will enable him to further secure his crop by carrying it into haggard.

Among the advantages of Irish shooks are, that they save the crops, be the harvest good or bad; that they preserve the weight, colour and feeding properties of wheat, barley and oats. Every person knows that good colour adds to the value of grain, more especially for wheat and barley; but their great advantage to Scotch farmers would be that they would greatly enhance the value of straw, so essential to the feeding of cattle, which is the main stay of the farmer, and the last plank on which they are likely to stand or fall. What is it that constitutes the superiority of English hay, with its sweet smell? Just the mode of its seasoning, and its being kept from the injurious influences of dew, rain and sun. Straw exposed to these influences becomes bleached and shrivelled; whereas straw preserved from the influences of the air and elements, and kept covered with capes, like Irish stooks, keeps its clear, bright colour, retains its weight and sap, as well as its feeding qualities, nearly as when cut, and, I venture to say, would be perhaps enhanced a third in value. If so, ordinary straw at 4d. would make superior straw worth 6d. per stone, or a difference of 30s. per acre yielding 180 stones, which would be more than the rent of ordinary land. But some might say, "wait a little; you may not see such a harvest as the present during the currency of your lease." But what if you did? How many years such "wait a while" could hold their heads above water. There is something inconsistent, if not blameable, in farmers paying very high rents, very high wages for labour, and very high outlays for expensive machinery, &c., for raising and cutting crops, and, after all, allowing them, with folded arms, to get damaged under drenching rains. Must we have recourse to our enterprising cousins for some clever invention for securing our crops, or should we not rather apply some contrivances of our own? If I am not greatly mistaken, times are approaching which will demand exertions and sacrifices both from landlords and farmers, when the former should not be too exacting, and the latter will require his utmost exertions, and even when small affairs (for what is farming but a collection of small affairs, like the Highlander's big cairn, an accumulation of small stones), such as the subject of this letter, will demand the minute consideration of farmers

The Absorptive Power of Soil.

It is an important discovery of recent date, that soils have the power of separating not only ammonia, but other bases also, from their solutions, and of holding them with great tenacity after their absorption. Thus 100 grains of clay soil, taken from the plastic clay formation of England, absorbed 1,050 grains of potash from a solution of caustic potash containing one per cent. of the alkali. It is interesting to observe that the liquid was not, in this case, filtered through the soil, but the cold solution was merely left in contact with it for twelve hours.

It has been further shown that soils have the ability to separate the alkaline bases from the acids with which they are combined. When saline solutions were slowly filtered through soils five or six inches deep, the liquids which passed through were deprived of their alkaline bases, as potash, soda, ammonia, and magnesia, and only the acids were to be found in combination with some other base. Thus, when muriate of ammonia was filtered through the soil the ammonia was removed, and a corresponding quantity of lime, in combination with muriatic acid, was found in the filtered liquid. In the same way sulphate of potash was deprived of its base, and the liquid collected gave sulphate of lime.

Those soils which have the greatest amount of capillary porosity will condense the greatest amount of manurial substances on their internal surfaces, will retain them longest against the adverse solvent action of water, and will give them out most readily to the rootlets of the growing plant

A mass of adhesive clay will absorb but a very slight amount of available manure; but if this same mass is rendered friable, by mechanical processes, its power of absorption is amazingly increased. In view of what has been stated, it is very clear that one way in which plowing increases the fertility of land is by increasing its porosity by pulverization.

Again, many manurial substances exist in the soil, which, being insoluble, exercise no action on the growth of plants; but by the slow, though regular action of the frosts and the rain, the air and the sunshine, insoluble and refractory compounds are reduced to a soluble state, and are appropriated and held on deposit by the soil to the credit of the next cultivated crop. This explains the well known fact that soils, which have been cropped to the very verge of barrenness, will recover their fertility if allowed to remain long enough under the action of climatic influences to saturate the soil with the necessary plant-food, which they have unlocked from their chemical combinations, and given to the soil in a perfect physical condition. These changes are brought about more rapidly when certain mechanical changes of condition are wrought upon the soil.

Carbonic acid is one of the most active of the agents employed in bringing the insoluble organic matter in the soil into that physical condition in which it becomes available as plant-food. In order that this acid may be formed, it is essential that the carbonaceous matter in the soil should be brought into direct contact with the atmosphere, from which they procure the oxygen necessary to convert them into carbonic acid. So long as stagnant water remains in the soil, or so long as the soil is in a dense or very compact condition, it is impossible for the carbon to be converted into acid.—*Journal of Chemistry.*

Poor Hay.

There is a great deal of poor hay in the country which will be fed out between the present time and next spring. And it is a matter of considerable importance to the owners of the cattle which are to eat it, that the best possible time should be chosen and the most economical method of feeding should be pursued. When all possible advantages of the situation are taken, the fact still remains that feeding poor hay is rather a bad job, both for the man who deals it out and the cattle which are obliged to eat the hay. Not that there is any special trouble in making cattle eat it. By keeping them short enough they can be made to eat almost any kind of hay. But the difficulty is to make them thrive upon this kind of keeping. The good farmer not only wants to see his cattle eat their hay, but also wants to have them gain flesh and increase in value. And to make them do this while kept only on poor hay is utterly impossible. They must have something from which nourishment can be obtained or else they will certainly show the effect of poor keeping. The poor hay is lacking in nutritious elements, and in order to make cattle do well while fed upon it something must be added to make up the deficiency. If this is done, pretty poor hay can be fed with good results to the cattle and profit to their owner. My method of disposing of the poor hay which grows upon two or three acres of cold, wet land which I have, is as follows: During the cold days of early winter I feed my stock in the morning with plenty of good hay. About the middle of the forenoon I feed them, either in the stables or barn-yards, with good, bright corn-stalks. After they have had a run in the yard for five or six hours I cut up a lot of hay by running it through a feed cutter, and put two bushels of the cut hay into the manger of each cow. I then throw on water enough to moisten it, sprinkle on from two to four quarts of meal, and mix it up with a pitchfork. When the feed is all mixed I let the cows in. They eat the hay up clean and neither dry up nor grow poor while kept in this way. This is the best plan for disposing of poor hay which I ever tried, and I think it may be safely recommended to the attention of all farmers who have this kind of fodder on their hands.—*Cor. Ohio Farmer.*

Good Ploughing.

Ploughing is an art. A really good ploughman is a rarity as much as a really good landscape painter, and yet ploughing is one of the main items of valuable labor upon a farm. I have seen one man, when ploughing, lean forward with hands upon plough handles, and laboring at one time to keep the plough from going too shallow, and at another to keep it from going too deep; making a furrow of irregular depth and width; here a balk, and there a ridge. I have seen another man take the same team, arrange the gearing, and plough with one hand on plough handles, turning a furrow clean, of even width and depth. Unfortunately too few ploughmen understand the principles of draught, and hence many a good plough is condemned bad. It is this want of knowledge how to use a plough that keeps back progress and reduces the value of crops on many a farm. I speak knowingly, having had practice, more or less, between plough-handles for over fifty years, commencing when eleven years of age. I studied the art of ploughing practically, and being engaged in supplying farmers with ploughs a part of the time mentioned, there was a necessity of knowledge of the form of the plough and the principles of draught In exhibiting and competing at State and country fairs, it became necessary for me to know how to fit my plough for its work, and more necessary to find a ploughman who understood the whole matter. It took weeks to find such a ploughman; but I did find him, and every time he was put in competition he won.