

straw, as it contains little else than carbon and mineral substances.

Ploughing stubble under may produce some mechanical good on certain soils, that are very clayey or are apt to run together and form a coherent mass: but in the great majority of cases, stubble leaves the soil quite too porous, and there are few instances where it is not advisable to roll stubble before ploughing it, in order to close up, if possible, the cavity of the stalks. This loosening of the soils of clayey land is perhaps the only argument, if we except the retention of the carbon, that can be advanced in favour of ploughing stubble under. To offset this we have the additional expense of rolling the land, and the great disadvantage of the stubble interfering with the movement of the plough and the turning of the furrow.

But even in the case of clay lands the argument is with the fire. Nothing renders clay so available for agricultural purposes as heat. It tends to pulverize it and at the same time to render the silica soluble, and in a condition to unite with potash and soda. Every vine dresser knows, and every grain grower should know, that there are few better substances to apply to either a vineyard or a field than pulverized brick. The cheapest and by far the easiest mode of applying this manure is by burning over our clay fields.

But besides the chemical argument in favour of burning stubble, there are others which are equally forcible. Fire has always been spoken of as a purifier, and in no place is it so efficient as in a stubble field. The seeds of the tares which have grown along with the wheat till the time of the harvest, are, in a great measure, destroyed by the fire that consumes the stubble, and the same is true to an equally great extent of the eggs and larvae of insects.—*Prairie Farmer.*

Smut in Wheat.

This is caused by a minute sporadic plant, the spores or seeds of which are so very small as scarcely to be distinguishable, even with a good microscope. These spores attach themselves to the seed of the wheat in the first instance, and from thence ascend into the plant through its sap vessels, fastening on the grain when the ear is in bloom, and turning the seed into a mass of soft blackish fungous substance, which is poisonous to man or any of the animals eating it, either in the green or ripe state. Indian corn, barley, oats, and other grains are liable to become the medium for propagating smut. In corn it assumes quite a heavy growth, making the ears affected by it large, unsightly, and disagreeable to handle. Generally speaking, the smutty stalks of grain are shorter than those that are not affected, so that the crop will show it but

little till harvest time, except on close observation.

Wet, backward seasons are peculiarly favourable to the development of smut, and this year it is likely to be unusually prevalent in our grain crops and corn.

Even a farmer who is particularly careful to grow clean crops and sow clean seed, will often find smut where he least expected, the germs being carried from one place to another in the travelling threshing machine. It seldom affects the wheat crop so as to injure it to any extent, but is often very destructive in late oats and corn, and it is well to make sure that the crop of the next year will be pretty free from it, by destroying the spores or germs that may remain attached to the seed grain to be sown. Salt, it is well known, has a peculiar effect on all fungoid growths, destroying the vitality of the spores whenever brought in contact with them. So it comes that the best methods we can adopt to prevent smut is to either steep the seed grain in a strong solution of salt in the form of brine, or sprinkle brine over the grain on the barn floor. Old brine, in which pork or beef has been kept, if re-boiled, answers the purpose. When the grain is steeped in brine, it need not remain in it more than ten to twenty minutes, and if the brine is strong, many of the lighter grains and foul seeds will float to the top, and can be skimmed off. The grain is then taken out and spread on the floor, and a small quantity of slaked lime in powder strewn over it, and the grain turned over several times, till each seed gets a slight coating of the lime dust, and it is then ready to sow, but if to be sown by a drill, will need to be dry before using, to prevent clogging up the drill spouts. We have often used a solution of copperas for the same purpose, and in the same way, but the copperas requires first to be dissolved in boiling water, and care taken that none of the grain, after being put through the process, gets back into the bin, or within reach of pigs or poultry, or some of them will be poisoned by the minerals used in the solution.

Mowers and Reapers

A great number of advertisements constantly appear relative to the excellence of this or that mower or reaper, or combined machines. When about to purchase a machine, of whatever kind, it becomes very advisable to know how long such an implement is supposed to last, and the careful construction of it adds immensely to its endurance. I would particularly call the attention of the judges of the various kinds to

this fact, and impress on their minds, that on no account should the substantial construction of the machine be lost sight of, when awarding a prize for its work. We all look to the decision of the judges, and the certificate of first prize at any of our agricultural implement shows, or trials, as a guide to assist us in purchasing a machine; we all have not the advantage of seeing the trial, and comparison, and hence, are glad enough to accept the decision of the judges as our guide in purchasing.

To show the importance of these remarks, I will only instance the loss or gain that may accrue to farmers purchasing, say only five hundred machines in any one locality, where a trial has been made and certificate granted. Let us suppose, for example, that the cost is \$100, and that each good machine will last ten years, and that five hundred machines of three kinds are sold; named respectively No. 1, 2, and 3. No. 1 costs \$100, and does good work, but is constructed of such materials and workmanship, that it will last only five years. No. 2 is a little better constructed, and will last seven and a half years. No. 3 is so constructed that it will last ten years. These may be slightly exaggerated prices and terms, but they will serve as illustrations.

Now, the work of all may be good, but still that of No. 1 may be the best, and the judges are compelled to give it the premium, although it is in reality twice as expensive as those that last double the time, and probably will not work as well the second and third seasons as the first. The same relative value in proportion will apply to Nos. 2 and 3, but look at the result in figures. The purchasers of No. 1, which took the first prize, five hundred in number, absolutely lose, amongst them, \$25,000, as in five years they must all purchase new machines; whereas No. 3, lasting twice as long, ought certainly to have had some benefit from its good construction and causing the saving of so large an amount of money; and moreover, five hundred or five thousand do not cover the whole number sold in Canada in one year. I would therefore respectfully call on the judges, who, although ostensibly acting as umpires for the manufacturers, are in reality acting as advisers for all who buy under the certificate of first prize, to take the above view into their consideration when granting premiums. Of course if prices were in proportion to goodness of construction, and were mentioned and taken into account, there would be no longer any need to attend to duration; but they are not, and a most inferior machine may often obtain the first prize from its good work, while, from its inferior construction, it may not endure for more than half the time that others better made will.

C.

The hay crop on Prince Edward Island this year is heavy beyond precedent, being double that of any previous season.