the origin and formation of soil in many parts of the world, and that much of it resulted from changes which occurred in the Glacial Period of geological history. Regarding the classification of soils, there is little uniformity; but it is frequently based upon the amount of clay, sand, lime, or vegetable matter present. The following may be taken as a classification on this basis:

Clay soil	90-100 per cent.	sand.
Sand soil	90-100 "	sand.
Loam soil	50 "	clay and 50 sand.
Clay loam	75 "	clay and 25 sand.
Sandy loam	75 "	sand and 25 clay.
Marl	5 20 "	lime.
Calcareous	over 20 "	lime.
Peaty	large "	vegetable matter.

TOP-DRESS GRASS LANDS.

In this country too little attention is given to the importance of top-dressing fields that are seeded down with grass. Indeed, the greater portion of the farmers, having put the land into grass, consider that sufficient, thinking they are giving the land a rest. Perhaps no greater mistake than this could be made; for almost invariably before it is thought advisable to put the land into grass, it has been cropped and cropped, till nearly all the available plant food has been taken out of the soil, which is then considered good enough to grow a crop of grass. If the land then yields a ton or a ton and a half of hay to the acre, it is looked upon as satisfactory, although it might have been a little better. Now all this could be vastly improved at a trifling expense, by top-dressing the meadows.

This should be done as early in the spring as it is possible to haul a waggon over the land without cutting it up with the wheels. Good, well-rotted barn-yard manure, taken from the bottom of the pit, cannot be excelled. It should be spread lightly and afterwards gone over with a brush harrow to serve the purpose of breaking and fining the manure; and also to more evenly distribute it. If this plan is considered too troublesome, or the supply of barn-yard manure too scanty for any to be spared for top dressing, use some of the well-known patent fertilizers. You will find that it pays to do so.

In England, where the farms are so heavily rented, the farmers find it profitable to pay high figures for fertilizers for top-dressing, Guano being most extensively used for the purpose, although sold at a very high price. Our farmers can very easily obtain a large supply of Guano, on their own premises, by simply keeping their poultry in suitable premises and having the droppings cleaned out regularly. This should be mixed with plaster or wood ashes and put into barrels and kept under cover till wanted. It will astonish any person to see the large quantity of valuable manure that can be made in twelve months by a very few fowls.

CARBOLIC ACID.

As a deodorizer and disinfectant, in fact as a general purifier, carbolic acid stands unrivalled. Until its virtues were discovered, we were often at a loss to know what to use for this purpose. When properly diluted and prepared, it is good for sores, and for the bites of insects, neutralizing the poison. In the proper management of poultry it plays a very important part, and when once tried its use will never be discontinued. When sprinkled over the floor of the hen-house after each time it has been cleaned, it will remove any bad odours and will purify the house. It can be rubbed on the roosts and roosting benches and sprinkled (moderately) in the new-made nests, in all cases being very beneficial in ridding the house of any unhealthy odours and in disturbing and driving away the insect enemies which cling so persistently to both the bodies of the poultry and to the inside of the house and their nests.

WHITE BELGIAN OATS.

During the past year there have been many varieties of oats competing for popular favour The accompaning illustration represents a variety which has proved itself well adapted to this country. Thorough and careful trials by some of our leading Ontario farmers, as well as Joseph A. Simmers, seedsman, of Toronto, show it to be early, productive, and of extraordinary weight. White Belgian oats is far ahead of any variety of oats grown for the following reasons:—

(1) The quality of this variety for feeding purposes and manufacture of oatmeal, is such that no other variety can equal it. *The thin husk*, for the manufacture of oatmeal, and the very nutritious qualities of the kernel, place it at the head of every variety for feeding stock.

(2) The stiffness of the straw gives this variety another great advantage over all others; for, notwithstanding the changeable weather which we have before maturity of oats in this country, this variety has not been known to lodge in any case.

(3) Its early maturity is another point in its favour, ripening, as it does, ten days earlier than any other variety, which quality, of itself, places it at the head of the list.

(4) The enormous yield of this oat has led farmers to doubt the fact that it does yield from 12 to 150 bushels per acre; but when we give a clipping from a practical farmer, who grew this variety to a large extent last season, it will convince the most sceptical on this score. We here quote the following report:—

"DEAR SIR,—The White Belgian oats I sowed last spring, on about one fourth of an acre of loam land; I have harvested an enormous crop of heavy oats, which must weigh nearly fifty pounds to the bushel, and I presume if I had sown an acre I should have harvested two hundred bushels to the acre. I regard them as the best oats now raised. The straw is strong, consequently they do not lodge. They are by all means the oats for farmers to grow. Yours, etc., ———"

Numerous other testimonials were handed to us but space will not allow us to enumerate.

STABLE MANURE.

For the treatment of this most important article, we have a multitude of plans to suit the various conditions of soil and circumstances. *Though some may still err by lack of knowledge*, or by sticking to old methods, yet a great many are forced to follow a plan which they know could be improved if they had the opportunity. On clay soil, such as we have in Huron, there can be no doubt that manure put in the land in its coarse state has a decided advantage by tending to open the soil, but there is some danger in a dry season of producing too much heat in drills by using strong unfermented manure, while in a wet season the heating would be a decided advantage. Several times seed potatoes have been wasted in the drills when dropped over a heavy coat of unfermented manure, but never when the seed is first dropped and the manure placed over them, because fermentation sets in immediately after the drills are covered and as heat always tends upwards it escapes before the stalks have entered the manure whose further decomposition attracts and holds moisture, a consideration in the development of a vigorous growth of stalks. When coarse green manure is ploughed into drills for turnips the same good effect is not apt to follow, as the land after midsummer is generally quite warm and additional heat from below would be too much to start a good braird of turnips *strong enough to resist the fly*. For carrots or mangels when sown in April or early in May, it may be all right to put it in green or unheated, but when these are sown in June, there is danger of too much heat also. Where the pressure of spring work will admit and the land is tolerably fertile a plan that has given good results is to spread the manure on the ground and plough it lightly in, running the harrow over it and letting it lie till early grain has been sown, and then work the ground well and finely before drilling for the roots.

Many readers of THE RURAL will say all manures should be thoroughly rotted before they can become food for plants. Very true. Doctors differ; so do soils and farmers. What killed the tailor cured the blacksmith. To put coarse or green manure into light sandy soil, already too light and warm, renders it more so, thereby ensuring a *missed crop, while in stiff or clay loam it would* be just the right thing to warm and loosen the soil. The heating is what we want to get rid of without loss. If we had plenty of spare time, we could do it all right, but with farmers it is not what we should do as much as what we can do. Not one in a hundred can afford to have a cellar or shed for manure; and if he had, it would take an able-bodied man sixteen hours a day to take care of the manure from twenty-five head of cattle and horses to prevent waste, and he might not even then be entirely successful. No one can afford to heat manure in summer in the open air, indeed, it is doubtful if it will pay to keep manure over summer on any account, unless it be an old straw stack which cannot occasion much loss. To get heating started in winter, I have succeeded without much extra labour in this way. The manure gutter is large enough to hold five or six days' manure where the liquid and solid are dropped together in a water tight bottom of clay. Here litter, solids and liquid, is evenly mixed from neat cattle, and when a quantity, say about three waggon loads, has collected, the foundation of the heap is laid first in the shape of a cone, not tramped or levelled. The first snow fall covers it, the mercury being below zero frost penetrates about six inches into the pile. Build an addition on one side in the same way four or five times; never mind clearing off the snow or breaking the crust. But when I wish to apply the heat, I spread a fresh layer of straw about *four feet wide, the length of the base of the cone*, keeping the outside nearly plumb, tramping lightly around the outside and on top. As the finer scrapings are put on throw a little snow over the top, if a snow storm does not come immediately. In four or five days, heating begins on that side, unless snow falls frequently. The scoop shovel must be used to keep the newly built part covered until the next layer is built when most of the trouble is over. The heat gradually spreads, melting the snow and crust on the pile first made, and prepares a gently fermented manure heap without much waste where snow falls regularly, or a drift is at hand. More anon.

Egmondville, Feb., 1885. M. MCQUADE.