



The Field.

Familiar Talks on Agricultural Principles.

MISCELLANEOUS FERTILIZERS

After four "Talks" on the subject of manures, our readers will begin to think it time to change the topic of conversation. Before doing so, however, a brief reference must be made to some fertilizers not yet named. Nature is bounteous in providing sources of enrichment to the soil. If one description of fertilizer cannot conveniently be had, there are usually others within reach, so that there is no need to let land become impoverished.

Guano is a very rich and valuable manure. It consists of the droppings of sea-fowls, and is found on certain uninhabited islands on the coasts of Peru and Africa, where it has been accumulating in a dry climate, for an unknown length of time. It contains in large proportion, and in a highly concentrated form, nitrogen and the phosphates, those rare and expensive elements of plant food. It varies in quality, but good guano is a very powerful fertilizer. From two to four hundred weight per acre on most soils will suffice for a crop of turnips and a succeeding grain crop. It is however better to apply it as an adjunct to farm-yard manure, in half the quantity just mentioned, because although it is rich in the rarer and more concentrated material of plant food, it does not contain much of the commoner organic substances necessary to make a soil fertile. This fertilizer has been too scarce and dear in Canada to be much used, but as our readers will have observed, Messrs. S. C. D. Clark & Co., of this city, lately advertised in our columns, that they would import a cargo direct from the Chinicha Islands, provided orders for 300 tons could be obtained, and would furnish it at \$50 per ton. At this price, we do not know of a better investment that the farmers of this country could make, especially those whose lands are worn out by successive grain crops. For such soils, there is no better restorative than guano,—and none that acts more quickly. An artificial guano is made in Newfoundland and Maine, from fish refuse, of which Prof. Dawson speaks in high terms as one of the richest of portable manures.

Wood Ashes, unleached, are a very valuable manure, and may be applied with any crop. They must however be used sparingly, as in addition to their fertilizing properties, they exert a caustic or decomposing influence on organic manures and the roots of plants. Fifty bushels per acre for heavy soils, and a less quantity for lighter soils, will suffice. Wood ashes are especially valuable as a manure for what are called the potash plants, viz. potatoes, turnips, Indian corn, and beets. This is in consequence of the great amount of carbonate and other salts of potash which they contain. Many farmers are

in the habit of selling their fallow and house ashes to ashery pedlars, or even of teaming them to the nearest ashery for sale themselves. This is poor economy. They are worth more for manurial purposes than the soap and potash manufacturer can afford to pay for them. Let these establishments be left to obtain their supplies from town and city households. On no account should a farmer ever sell a bushel. At present rates, it would be wise policy to buy a supply of them to spread on the land. Leached ashes, though of less value than unleached, are still of great utility, consisting largely of carbonate and phosphate of lime.

Soot is a precious manure, being made up of carbon, in a state of the finest powder, and also full of volatile salts. In Flanders, it is carefully preserved for beds of colza, which it protects from plant lice. In England, the sweepings of town and city chimneys, are husbanded and scattered upon meadows with the best effect. The soot from bituminous coal is even better than that from wood.

Hair and hoofs, are excellent manures, and may often be obtained simply for the hauling, from adjacent tanneries. They decay slowly, nevertheless an application of from 20 to 30 bushels per acre, produces marked effects.

Sea weed is a fertilizer of great value, and easily obtainable by farmers who live on the sea-coast. It is however beyond the reach of most of our readers.

Lawn Weeds are useful too, especially those rank roadside weeds, which, left to mature their seed, are a constant source of annoyance to adjacent farms. Their removal would give a neater appearance to the country, as well as increase the manure-heap and prevent the multiplication of weeds.

Dead Animals rank among the very best manures. The practice of dragging off a dead horse or cow to the edge of the woods, and leaving it there to decay and fill the air with pestilential odours, cannot be too severely condemned. It is a wilful waste, as well as the creation of an execrable nuisance. The best way to dispose of the carcass of a dead animal is to place it in a hole one or two feet deep, sprinkle plenty of quick-lime upon it, then throw on a layer of earth, next a layer of gypsum, then again a layer of earth mixed with powdered copperas, and over all a good thickness of earth. The gypsum and copperas absorb the ammonia and sulphuretted hydrogen, and prevent all unpleasant effluvia. In a few weeks, the heap may be opened, the bones separated to be used in bone manure, and the remaining mass turned over and mixed, if necessary with additional earth. Dana in his "Muck Manual" affirms that the body of a dead horse can convert twenty tons of peat into a more rich and lasting fertilizer than stable manure.

Lime is an important manurial agent, chiefly in consequence of its promoting the decay of vegetable matter, and setting at liberty the potash and other alkalis in the soil. It should be used most freely on heavy soils containing considerable vegetable mat-

ter. On light soils, it must be used sparingly. The necessity for applying it may be ascertained by the simple experiment of trying whether clover and such of the green crops as require much lime will thrive on a particular soil. If they will not, lime is needed. Lime tends to mellow clay land, and corrects the acidity of soils, particularly that of bogs and swamps.

Marl is a mixture of lime and clay, which produces all the permanent effects of lime, though it acts less quickly. The geological survey has discovered the existence of this substance in many parts of Canada. It should be made use of wherever accessible, and applied, clayey marl to sandy soils, and sandy marl to clayey soils.

Gypsum or Plaster of Paris is useful as a supply of sulphate of lime to crops, affording not only lime but a proportion of sulphur, often an important and essential element of plant-food. It is valuable also as a means of fixing carbonate of ammonia, one of the most volatile products of the decay of animal substances. By converting it into sulphate of ammonia its waste is prevented. Plaster should be applied in the shape of very fine powder, in the spring of the year just when vegetation is beginning, while the dew is on the plants. It must not however, be applied in rainy weather.

Green Manures are standing crops ploughed in at the stage of ripeness, when they contain the greatest quantity of soluble matter. Clover, lucerne, sainfoin, vetches, cabbages, radishes, turnip-tops, Indian corn, and rye, are the best plants for this purpose. Deriving a large proportion of their nourishment from the atmosphere, they add considerably to the fertility of the soils into which they are ploughed.

There are various artificial fertilizers of which there is not now space to speak particularly. In concluding this important subject, we would quote with entire approval, a piece of advice we have met with somewhere, to the effect that a farmer should never run in debt, but if he ever does contract a debt, it should by all means be for MANURE.

Harvesting Wheat.

THE advent of harvest induces us to offer a few observations on the best methods of conducting its operations, and first, with regard to the degree of maturity in which wheat ought to be cut in order to produce the best sample, and to avoid the most loss. It may be laid down as a rule, that as soon as the grain has passed from the milky state, which may be ascertained by squeezing it between the finger and thumb, it may safely be cut, and any further maturity it requires will be accomplished quite as effectually on the shock. The rationale of this is, that wheat dies upwards, that is, it begins to die first at the root, and from that time it receives no nourishment from the soil; but what sap it still contains continues to