

on the Saint-Lawrence, dung can be bought at ten cents a load—about thirty cents a ton—the carts are very small in the French country, and the horses badly fed. It is a treat to see Dawes' great Shire mares trotting along at about 8 miles an hour with a heavy load of grains behind them. I do not suppose the elephantine beasts would answer well in those backward counties where the snow plough is never used, and the road is too narrow for double-harnessed horses to travel. But on the Island of Montreal, where pains of every kind are taken to keep the road wide and level, they are just as handy as a Canadian pony. Of course, if they got into a drift, they would wallow about like whales; but then, the road-masters do not allow drifts in this part of the country. A splendid young Shire-stallion will be ready for service this spring. At present the mares are in foal to one of Hender-son's Clydesdales, at Petite Côte.

*Plaster.*—The R. N.-Yorker says that "the use of plaster upon potatoes raised in the poor soil field of the Rural Grounds three successive seasons did not increase the yield." I dare say not, since, except where lime is absolutely required, plaster has little effect on any plants, except those belonging to the leguminosæ. Ville never omits plaster from any of his mixture, wherein I think he is wrong. Almost all land has lime enough in it to serve the purpose of plant-food: lime, when given in doses of 150 bushels, or even 250 bushels, as in Scotland, must be applied more as a mechanical agent than as food for plants.

*Bone-meal and ashes.*—Professor Storer, whose book on Agriculture I have never seen, is reported by the R. N.-Yorker as recommending the use of 600 lbs. of bone-meal and 20 bushels of unleached ashes—to the acre I presume—on good land. This, at present prices—\$35 a ton and 20 cents a bushel—would cost at least \$14.50, without reckoning carriage. With wheat at 90 cents, barley at 70 cents, and oats at 40 cents, a bushel. I do not see how any farmer could afford such an outlay. The only thing that could make such a dressing pay, would be its use as a preparation for permanent pasture. And, again, if this is the dose for good land, what would it cost to treat bad land?

*Sulphuric acid.*—I saw it stated the other day—I have unfortunately mislaid my reference—that chamber acid only cost \$5.00 a ton to make. Add \$2 50 to this for profit, carboys, &c., and it seems to me that \$10.00 ought to be the extreme price for it delivered in Montreal—half a cent a pound! Now, unboiled bones can be bought anywhere for \$1.10 a ton. One hundred pounds of these smashed to pieces with a sledge-hammer, and moistened with, say, 75 lbs. of chamber-acid, would make, at the above prices, the cost of sulphated bones=\$14.62 a ton! The proceeding is easy enough: place the smashed bones in a vessel of any kind that will hold them and leave one third of its capacity empty for the swelling; pour in water=twice the bulk of acid you intend using; then add the acid, and after stirring up the mass with an iron fork, or something of the kind, leave the mixture to work. I used to make my own superphosphate, and except burning an obstinate Scotchman's trousers, who would not believe in the caustic powers of a simple liquid, I never had the slightest trouble or accident. I prefer placing the carboy on a bench or shelf above the mixing tub, and emptying it by means of a siphon—a bent lead-pipe will do—, for if the acid is poured out too hastily, splashing will take place, and it stings where it falls. When cooked, dry up with ashes or mould, and pass through a finish sieve after turning and mixing well. Any bits of undissolved bones that will not pass through the sieve may be reserved for a second batch.

The great knuckle-bones of bullocks had better be burnt in the stove, as they are almost unsmashable—the nitrogen, of course, will in this case be lost, but that cannot be helped.

*Nitrate of soda.*—"Several years ago," says the R. N.-Yorker, "potash, in the form of kainit, and burnt bones was spread on a plot of our experimental grounds, and on half of the plot nitrate of soda, at the rate of 150 lbs. an acre (= 24 lbs. of nitrogen), was also spread. The yield of the latter part was about double that on the other, while the difference in the colour and vigour of the plants could be seen a long way off." This would seem to confirm my theory as to the fertilisers for seeding-corn and fodder-corn—see p. 50.

*Hen-manure.*—I remember, some six or seven years ago, a correspondent was very angry with me because I would not allow that poultry manure was equal in value to Peruvian guano. I see that Professor Storer, the author of the latest American publication of agriculture, values hen-manure at \$7.00 a ton. Peruvian guano, of very moderate quality, is worth \$60.00. Any one can see at a glance that hen-manure can only be used on the spot where it is dropped, as the carriage of it for, say, only 50 miles would be worth at least 25% of its value. Individually, I should be sorry to give more than double the price of good dung for it.

*Nitrate of soda.*—Mr. Mapes, a fertiliser maker, says "that the use of nitrate of soda alone as a source of nitrogen on light soils is very injudicious, as it requires very favourable circumstances to prevent rapid loss by leaching through the soil." Nobody who knows what he is about sows nitrate of soda except after the crop is well up, and a rainy day or dewy morning should be chosen for the purpose. The nitrate sticks to the leaves, and the loss by leaching is trifling. If used for mangels, in preference to sulphate of ammonia, it should be sprinkled along the rows after the plants are singled. Still, I must say I prefer the sulphate of ammonia as a source of nitrogen, the price being suitable. One hundred pounds of sulphate of ammonia are equal in manure-power to about one hundred and twenty-five pounds of nitrate of soda.

*Acids injurious to plants.*—The above-mentioned, Mr. Mapes also laments the use of highly concentrated superphosphate, without mixture with some materials which would reduce or neutralize the acidity. "Damage," he says, "is often done in the use, on very light soils, of fertilisers rich in soluble phosphoric acid, when coming into contact with the roots of the plants." I have seen 1120 pounds of superphosphate applied to an acre of very light land, and an excessively fine, healthy crop of swedes produced by it. A common dose in the north of England is 672 lbs. Both these dressings are absurdly large, as experience has taught us that 336 lbs are a full allowance. As an acre of land, nine inches deep, weighs about 3,000,000 pounds, the soluble phosphoric acid in an ordinary dressing of superphosphate containing 15% would not amount to more than  $\frac{1}{1000}$  of the whole of the ploughed surface; I do not think such a proportion as that would injure the roots of our most delicate plants. This, of course, refers to cases in which the manure is sown broadcast and harrowed in; when the superphosphate is drilled in under the seed, it is, I may say, the universal practice to mix it with a considerable quantity of ashes or other diluent. In the light lands on the chalk in Wiltshire and Hampshire, great use is made of "Chandler's Water drill." The fertiliser is mixed with about 100 gallons of water per acre, and, no dung being used, is drilled in "on the flat," the entire