From the Northern Cultivator.

VALUE OF STABLE MANURE.

Can you inform me how many tons of the best stable manure, from *grain fed horses*, is equal to one ton of best Peruvian guano? It is probable this, or a similar question, may have been frequently answered, but I am unable to find it in any of your valuable productions.

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The value of the stable manure depends on the composition of the food consumed by the animals, and how much of the liquid excrements is retained, and on the quantity of litter used, besides other circumstances too numerous to mention.

It is, therefore, difficult to get at the average value of stable manure as compared with Peruvian guano.

The value of stable manure as compared with itself, is in proportion to the ammonia it contains, for the more ammonia it has, the more phosphoric acid and other valuable mineral substances does it contain. Some will question the truth of this statement, but it is nevertheless true as a general rule. As compared with Peruvian guano, the chemically fertilizing value of stable manure may also be estimated by the ammonia it contains nearly if not quite as much phosphoric acid in proportion to the ammonia as the best stable manure, and the *availibility* of the elements of the guano, is in our opinion a full offset to the other mineral matter of the stable manure.

A ton of "farm yard dung," according to Boussingault, contains nitrogen nearly equal to 10 lbs. of ammonia; that from an "inn yard" 19.2 lbs. of ammonia. More recently from several analyses, Lawes & Gilbert found a "ton of rich box manure" to contain 5½ cwt. of dry substance and nitrogen, equal to 20 lbs. of ammonia, while another sample, composed principally of rotted straw, contained nitrogen, equal to only 5 lbs. of ammonia. A ton of liquid and solid excrements, free straw and other adventitious matter, from a horse fed with oats and hay, Boussingault found to contain nitrogen equal to 13½ lbs. of ammonia, and 78¼ lbs. of mineral matter.

From these data, which are perfectly reliable, our correspondent can draw his own conclusions. A good Peruvian guano contains 16 per cent. of ammonia, or a ton would contain 320 lbs. If all the liquid excrements are saved from your "grain fed horses," and little litter is used, and the manure heap has not been reduced by fermentation; in other words, if your stable manure is fresh, it probably contains about as much ammonia as that analyzed by Boussingault—13½ lbs. per ton. The figures, then, lead us to the conclusion that 23¾ *tons of fresh stable manure, from grain fed horses, is equal to one ton best Peruvian guano.* By judicious fermentation, a considerable quantity of carbonic acid and water may be driven off, and the residue be left with a larger proportion of ammonia, in which case a fewer number of tons would be required to equal a ton of guano.

THE FARMER'S FUTURE.

An English correspondent of the New York Tribune, expatiates on the prospective introduction of steam power as an aid in agricultural operations, as follows:—"The farmer's future will be found in the *application of steam to the cultivation of the soil!* We are rapidly coming to the conclusion here that the good old plow is a humbug. We begin to think that spade husbandry applied by steam is the right thing; indeed, there are some among us of the opinion that a machine may be invented which should, in effect, plough, sow, harrow, and roll altogether—a machine, in fact, which should make a seed-bed and sow the seed all at one operation. There has already been one steam-engine exhibited in this country which will walk anywhere, and do anything it is required to do. It has feet about the size of yours, Sir, and it puts them down upon the ground, one after the other, very much in the fashion of a dandy going up Broadway, only the feet of the machine are fixed on wheels, and revolve regularly, instead of moving up and down awkwardly, like his. This machine will go through a ploughed field very comfortably, and rather quicker than a good hunter will get over it; and as it will drag a dozen plows after it, I do not see for my part, why it should not be made to carry, as part and parcel of itself, a mechanism that will readily convert the untilled ground into a seed-bed. Well, then as to drainage. I saw a machine the other day that would dig, drain, and lay down sixteen and a half feet of piping per minute, the pipes being rather more regularly and satisfactorily laid than any skilled workman can lay them. The machine labored under the disadvantage of being cumbrous, and of being made to be worked by a stationary engine. But having got thus far, it seems to be only one step further to give us steam application to the soil so as to enable twenty times the quantity of land to be put under cultivation by the same amount of labor, and at no greater cost than now. Then we may hope for a produce of cheap corn, the great desideratum in this land of sweat and toil, where it depends upon a shilling or two, more or less, in the price of food, not only whether a man can reap the advantages of his labor, but absolutely, too often, whether he can continue to exist.