

have been of guano, and allowing the same return to have been obtained (but which I do not for a moment believe possible), the acre will have lost 11,050lbs. of nutriment, 400lbs. alone having been supplied. It is clear, therefore, either that guano cannot give the corn that dung will, or, if it does, it must be by stimulating the inert matter already in existence in the soil, of course at the expense of latent nutriment, and to the impoverishment of the land."

Now, good stable dung, half-a-year old, contains about 5 or 6 per cent. of ashes. At 5 per cent., the rshes in 20 tons of manure would be 1 ton. These ashes are found to contain about 60 per cent. of silica, and about 8 or 10 per cent. of calcareous matter, not of much value to the crops. This will leave about 40 per cent. of the ashes of the dung as the really valuable matter, and will give us 672lbs of inorganic manure as the proper equivalent of 20 tons of farm-yard dung.

The subjoined table which is given in the letter of Mr. Davis, is appealed to by him to prove the assertions which he has made; whereas it, in fact, contains the most complete refutation of his opinions.

Mr. D. says:—

"An acre of land, cropped with turnips, oats, seeds, and wheat, allowing the turnips to have been fed on the ground, and only one crop of hay taken, affords, exclusive of water, the following weight of the elements of vegetation:—

Produce of an acre in four years.
Composition.

	When dried.						
	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.
Oats.....	2,240	1,900	968	122	697	42	76
Ditto straw.....	3,883	2,750	1,378	148	1,073	11	140
Hay.....	3,024	2,400	1,137	120	908	50	180
Wheat.....	1,890	1,600	735	94	695	37	23
Ditto straw.....	3,340	2,400	1,161	127	935	9	168
Total.....	14,282	10,501	5,374	611	4,308	149	608

By referring to the above table, we find under the head of—"Ashes," that the whole amount of the constituents of the soil removed by crops weighing 11,050 lbs. is only 608 lbs.; an amount something less than the amount of manure furnished by 20 tons of farm-yard manure. With respect to guano, I should myself esteem 400lbs. weight rather too small a quantity to be used to obtain the greatest amount of benefit; but this much is quite certain that 600 to 800lbs. of guano, together with the inorganic substances furnished by the disintegration of any ordinary soil during four years of cropping, would be amply sufficient for the growth of even a larger amount of produce than 11,050 lbs. weight. I may likewise mention that good guano contains every inorganic substance required by the crops, except the silicate of potash; this latter is, however, generally furnished in sufficient quantities by the continual weathering of the soils.

In reference to this subject it may be worthy of remark, that the power of plants to assimilate to themselves the oxygen, hydrogen, nitrogen, and carbon, of which they obtain the greater part from the air, is directly proportional to the available amount of inorganic substances present in the soil.

Trusting these few remarks may be of use to many of our worthy practical farmers.

I remain, sir, yours truly,
J. C. NESBIT.

BRAILES.—GOOD EXAMPLE.—It has has often been to us a source of great regret that the intellectual improvement of agricultural labourers has not been more regarded in this country, and that farmers do not at-

tach more importance to the subject than they do, or those philanthropic societies for improving the condition of the labouring classes do not take this subject under their notice. It is one, we consider, of the most vital importance, that some sort of rational amusement should be provided for them after the toil of the day, and that in bettering their condition, some step should be taken towards extending their general information and elevating their social intercourse. Most of them receive no education after they are 8 years of age. They can but just read and scrawl their names when they leave school to follow the routine of farm-labour; and consequently their ignorance is most lamentable, and we are most happy to find that some of the most respectable inhabitants of the village of Brailes, which is a populous agricultural district, have there established a reading room and library, and supplied it with suitable reading adapted to their station and capacity, such as the "Mark Lane Express," "Farmers' Magazine," "Farmers' Series," &c., with other instructive works; and we think, if they do but appreciate its value, it cannot fail to work most beneficially. The example of its founder is one well worthy of imitation; and we hope and trust that his efforts may be crowned with success, and that similar institutions may spring up in districts where at present no resort for amusement exists but the public-house.

Q. Q.

SULPHATE OF AMMONIA, ITS USES, &c., FOR FARMING PURPOSES.—Sulphate of ammonia is better known to the farmer than any other salts of ammonia, having been a good deal advertised of late by vendors of artificial manures. This salt is a compound of sulphuric acid (oil of vitriol) and ammonia. It is not found in a free state of nature, but is obtained by adding oil of vitriol to urine in a state of fermentation; or another plan is to apply the same acid to the waste liquor (ammoniacal liquor) of the gasworks, and then applying heat: the water is driven off, and the substance called sulphate of ammonia is left. The sulphate obtained from urine contains other salts, as the phosphates found in urine, and which are likely to add to its utility. The simple mode in which sulphate of ammonia is got, will show the farmer how much might be effected by a general acquaintance with chemistry. The urine of his stall fed animals might be collected, free of other matters, by having a small reservoir at one extremity of his buildings, into which, by small channels, the fluid would run from each of the out-houses where the cattle are lodged. Let the urine so collected ferment, and pour into it a quantity of the oil of vitriol, which can be purchased at the druggists' for a mere trifle. The vitriol has the effect of fixing the ammonia—that is, preventing its flying off, which it is apt to do when in combination with carbonic acid. The sulphate so formed is not volatile. Instead of oil of vitriol, gypsum might be used. Along with the sulphate of ammonia, other ingredients of considerable value as manures are obtained. By economizing well the means within our reach, we become in a measure, independent of the "manure vendors". We have opportunities of noticing the uses to which the urine of animals may be applied, but we cannot here overlook the extreme slovenliness and inattention which are almost universally displayed in the farm-yards around us. Every one extols, and justly so, the manure of the farm-yard; yet how many of those who so loudly boast of its superiority to artificial manures, attempt to manage their dung-hills as they ought to do? "Far-fetched and dear bought" as some of our