

rious that the percentages must represent number of tons of each constituent in 100 of the manure, and the value is calculated in the following manner:—

Tons of organic matter at 10s. per ton,	£7
“ soluble phosphates at £30 do.	446
“ insoluble phosphates at £7 do.	105
“ sulphate of lime at £1 do	39
“ alkaline salts at £1 do	4
“ ammonia at £60 per do	128

£727

quently the value of one ton is £7 5s. And the Peruvian guano calculated in the same way gives—

Tons of organic matter, at 10s. per ton	£26
“ insoluble phosphates, at £7 do	161
“ phosphate of lime and the al-	
kaline salts, at £30 per do..	150
“ alkaline salts, at £1 per do...	8
“ ammonia, at £60 per do	1020

Value of 100 tons.....£1365

he rate of £13 13s. per ton. It appears, re, that, as compared with other manures, an guano is a cheap manure. It must be too, however, that this system of valua- es only an approximation to the price, estimating it exactly many other matters e taken into consideration, more es- y in the case of manufactured manures. these the condition of the manure is of est importance. A damp, ill-reduced must not be valued at the same rate as ally manufactured sample, which has been t into a high state of division, and the r must exercise his judgment in this mat- diminish or add to the value to such an as he may consider right under the cir- ces. In the same way the proper ad- of the relative quantities of the differ- istituents must be taken into account. or example, if there be two samples of osphate having the following composi-

	I.	II.
.....	12.72..	11.83
nic matter	5.66..	3.82
sphate of lime	10.77..	21.30
valent to soluble phos-		
ates.....	(16.82)	(33.44)
uble phosphates.....	19.21..	2.59
ate of lime	48.99..	54.13
ine salts.....	0.11..	2.23
.....	2.54..	4.10
	100.00	100.00
onia	0.32..	0.37

values of these two manures be calculated g to the plan just laid down. No. 1 is orth £7 per ton, and No. 2 £11, but the value of the last is by no means so ause it is found that the conversion of le of the phosphates into a soluble form

is not attended with commensurate advantage in a manurial point of view, but that the best results are obtained when a reasonable proportion is left insoluble. In point of fact a manure like No. 2 is sold at from £8 to £8 10s., which may be considered as its proper value. These and similar matters must be borne in mind when selecting a manure, and form an essential element in the estimation of their value, and it must be understood that the per centage valuation must always form the basis of any system used, and it is only modified by these secondary considerations. The necessity of properly apportioning to one another the different constituents of a manure is obviously attracting the attention of manufacturers, and the number of superphosphates made from phosphates alone has recently undergone a considerable diminution, while those of which ammonia forms a large constituent are on the increase. The sum of what I would impress upon this meeting is,—

In the first place the most important matter for you to attend to in purchasing manure is to see that the seller supplies the farmer with an analysis of the manure, stating exactly what its composition is. The farmer, then, after examining this manure and calculating its value, according to the system which I have been explaining, should ascertain whether he receives value for his money, according to the analysis which was given him. He has next to ascertain whether the manure has the composition which the seller professes it has. Now, no reliance can be placed upon the uniformity of manures. In the produce of various manufacturers great differences are observed, and the reason is very obvious and very simple. Manure is a cheap article which will not admit of that amount of expenditure in the shape of labour which insures uniformity. The manufacturer must use a rough-and-ready process, and the consequence is he cannot ensure an absolute and complete uniformity. Even if you take four or five specimens of the same manure by the same manufacturer you will find that it differs very much in its composition; but if you take a small quantity from different bags and mix them all together you get a general average which, being the make of a good manufacturer, will turn out to be tolerably uniform. A sample, therefore, should always be selected from a few different bags, properly mixed together, and also the composition should be determined.

Further, the farmer is to ascertain that the analysis he receives is properly made. This is a point which he cannot be expected to understand for himself. There are no external indications in the analysis which can tell him whether it is rightly or erroneously made. He can judge, however, to a certain extent, in this respect, that all careful chemists ought to have pretty nearly a uniform system; and if he find any mistake he has a right to suppose that the results cannot very much be depended upon. If he attend to all these matters, and if, above all