

does, for, take away these two, and only a moiety of other matters remain, which can be cheaply obtained from many sources.

Not only are these substances the cause of the value of guano, but as either may exist in greater or less proportion, in any particular specimen, it makes that specimen better or worse for particular soils. Ammonia is supplied to plants in large quantities from the atmosphere, being absorbed by soils, and, with iron and clay, form "true salts." But if any particular soil has not this absorbent capacity, and has a deficiency of iron and clay, it cannot obtain ammonia from the usual source of supply, and will be unproductive, unless it be supplied from some other source. If guano is used, then, the purchaser should know which of the different lots contains the most ammonia. But many soils have the capacity to supply themselves with ammonia, but are deficient in phosphates, and, therefore, barren, and if the owners of soils find it more convenient to buy guano, than any other manure, they should know what specimen contained the largest quantity of phosphates, what samples contained the most of what they want. If the purchaser does not know, would he not be constantly liable to loss, in buying the wrong specimen? If it even acts well, he is not assured that another specimen would not have acted better. If, on his land, in one year, he makes a luxuriant crop, by the use of guano, the next year, by the use of a different specimen, even at the *same price*, he may make a very inferior crop. Guano, therefore, has a relative value in relation to particular soils, as it can supply them with a greater or less proportion of their deficiencies; it has an absolute value depending on the quantity of ammonia which is already or can be formed in it, and on its phosphates. Most clearly and unquestionably, then, its inspection should show the proportion of each of these constituents, so as to show its absolute worth, and its relative value to different soils. When a farmer is buying guano, let him know how much of each valuable substance he may be purchasing, then he will not be spending his money without knowing what he is getting for it, and can better suit his guano to his particular soil. The proportion of the two valuable substances is very variable, and yet the guano, at present, has but two, or, at most, three grades of value.

Some specimens of No. 1, or No. 2, or No. 3, must be much more valuable than others, and yet each lot of the same number sells at the same price. The purchaser should not be obliged, in buying guano, to pay twice as much for some specimens as he does for others, of only equal, it may be of less value. I have made many analyses of guano, and submit the following to prove what I have above stated.

Analyses of different specimens of guano, to determine its agricultural value:

Specimen A, contained of—

Ammonia,

Phosphates,

4.00 per cent.
36.00 "