

contrary, was, before this time, only known to chemists as an artificial product which had not been met with in nature. In an agricultural point of view the phosphoric acid furnished by Columbian guano is therefore equal in quality to that contained in all the other natural phosphatic manures; as fertilizers they all will act with the same energy and with the same success, and their commercial value should, therefore, be simply in proportion to the per centage of phosphoric acid which they contain by analysis. This is the more necessary to mention as the Columbian guano has been highly recommended to the agricultural community upon the analyses of several chemists who declared it to be a *natural superphosphate of lime*, and thus ascribing to it all the virtues of this fertilizer. But there is, as we have proven, no preference, whatever, to be attributed to either of them as regards the quality of their constituent parts.

*Mineral Phosphorite.*—In my last Report I have given the analyses of several lots of this fertilizer that have been sold in this market. The article, however, did not seem to have answered the expectations of the public, and no more was heard of it since. It is most probable that the particular state of aggregation of this mineral locks it too tightly up against the solvent action of water, even if it was calcined and subsequently crushed to the finest powder, and that, therefore, the ill success of a substance so rich in phosphoric acid as the above, has to be attributed to its failure to provide for this nutriment within a certain time when it was wanted by the plants. If this is the case, and no other reason is more plausible, there will be no better plan for making it useful than by decomposing it with sulphuric acid in order to transform it into a superphosphate; a business which must turn out most profitably by the low price at which the article can be had. More recently, a mineral from the State of Connecticut, of the same character as the above, has come to my notice, which is soon expected to be introduced into our market. Upon analysis it was found to be composed as follows:

Triphosphate of Lime.....	87.98
Chloride of Calcium.....	1.45
Fluoride of Calcium.....	9.55
Peroxyd of Iron.....	0.74
Sand.....	0.61

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100.33

The quantity of phosphoric acid contained in the above triphosphate of lime is 40.31, or nearly twice as much as 100 parts of raw bones contain. Besides, there is a considerable quantity of fluoride of calcium present, which renders this mineral still more valuable as a manure; fluoride of calcium forming a constituent part of the animal body to which it is supplied by plants.