

Both the samples contained fluorine, which was not estimated. These phosphates were deemed here as worthless, because they had not a lime base. I never could see any good reason for this opinion, especially, as I proved by actual experiment, that their phosphoric acid was rapidly dissolved by the alkaline silicates, which are of course present in every soil capable of producing wheat or corn.

EL MONITA GUANO.

Several samples of hard guano have been recently brought in from the island of El Monita. They somewhat resemble genuine Colombian guano in their external surface which is white, smooth and mammillated, but differ from it in their general structure, which is scaly, so that they readily split up in parallel layers. They appear to contain a mixture of the two phosphates of lime in varying proportions. The amount of sulphate of lime differs greatly in different samples. And this difference causes a fluctuation in the percentage of phosphoric acid. The following table expresses the composition of the first sample which I examined :

Water and organic matter,	-	-	-	12.28
Sand,	-	-	-	0.86
Lime,	-	-	-	35.06
Magnesia,	-	-	-	2.99
Phosphoric acid,	-	-	-	27.78
Sulphuric acid,	-	-	-	17.61
Not estimated,	-	-	-	3.79
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				100.00

I suppose these substances to be combined as follows:

Mixed Phosphates of lime,	-	-	-	46.18
Phosphate of Magnesia,	-	-	-	8.65
Sulphate of lime,	-	-	-	35.41
Sand,	-	-	-	0.86
Organic matter,	-	-	-	5.11
Not estimated,	-	-	-	3.79
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				100.00

Equivalent of phosphoric acid in bone phosphate of lime—60.17.

That these proportions vary materially, will be perceived, when I state, that another sample of a similar rock from the same island, brought in by the same schooner, and examined for phosphoric acid and lime contained of