

soil by the application of large quantities of a manure so expensive as Peruvian guano.

Nitrate of Soda.—This manure has been but little used in Maryland, but wherever it has been applied according to directions given in my former Report, it has fully met all that could be expected of it. As we have no new facts to communicate in relation to its use, I refer to what was said of it in my fourth Report.

PHOSPHATIC MANURES

Of bone black, bone dust and Mexican guano, we have fully treated in the fourth Report made to the House of Delegates, and of these we have nothing new to add, and refer for all necessary information in regard to them to that Report. For the present it is deemed necessary to give the following additional information on other manures of this class.

Columbian Guano.—This is a new variety of phosphatic guano, recently introduced into our market, and presents itself in the form of irregular, stony lumps, apparently composed of two distinctly different parts, viz: of an “exterior layer,” only a few lines in thickness, and of the “body, the great mass of the rock” itself, directly underlying the exterior part and extending to the centre of the mass. The former is of a gray or dirty white color, with vitreous lustre, hard but brittle, and therefore easily ground in a mortar; the interior part is of a dark brown mottled color, without any lustre, tough, horny and tenacious as to texture, and only with difficulty reduced to powder.

A proper chemical examination of this substance is therefore naturally divided into two separate analyses, that of the exterior layer and that of the body or great mass of the rock; the latter representing at the same time the composition of the genuine commercial article.

Several carefully conducted analyses resulted in the following composition of the respective parts:

	Exterior Layer.	Body of Rock.
Lime.....	41.76	39.01
Magnesia.....	3.10	0.22
Peroxyd of iron.....	0.34	0.11
Phosphoric acid.....	39.92	43.50
Calcium.....	1.34	—
Fluorine.....	0.85	—
Chlorine.....	0.75	trace
Soda.....	1.61	—
Sulphuric acid.....	2.07	7.08
Water and organic matter.....	8.60	10.75
Sand.....	0.02	0.02
	<hr/>	<hr/>
	100.36	100.69