

Per centage Composition of Baltimore Gas House Lime.

Hydrate of Lime, (water-slacked lime,).....	41.17
Hydrate of Magnesia.....	1.02
Carbonate of Lime, (air-slacked lime,).....	28.48
Hydrated Sulphate of Lime, (plaster of Paris,).....	4.93
Hydrosulphate of sulphuret of calcium.....	3.79
Hydrosulphate of sulphuret of Iron.....	4.67
containing of sulphureted hydrogen 5.03.	
Phosphate of Lime, (bone-earth,).....	0.26
Sand	2.94
Water	12.74

100.

By reference to my first Report to the House of Delegates of Maryland, you will perceive that I then published the result of several examinations of this lime, and recommended its use under certain conditions. Since then I have carefully watched its effects and collected all the facts attending its application, and am confirmed in the belief, that not only is this lime free from injurious effects, when properly used, but that on certain soils it is preferable to every other variety of lime. *It can be properly used wherever oyster shell lime or stone lime, free from magnesia, is indicated.*

The mode in which this lime should be applied, depends on the peculiar properties resulting from its composition, which is constantly changing on account of the presence of the hydrosulphates of lime and iron in it. These substances cannot long exist under the influence of atmospheric air, and are finally converted into lime (plaster of Paris) and peroxyd of iron. The quantity of sulphate of lime which is contained in this article, indicates to what extent this process of decomposition has already advanced, and which, of course, will be quickened when the lime is scattered and exposed to the full influence of the atmosphere. Besides these substances, we meet with a large per centage of water-slacked lime, which also undergoes a change under the influence of the atmosphere, being converted into air-slacked lime. 100 parts of this lime will therefore eventually become converted into 72.87 parts of air-slacked lime, and 30.13 parts of plaster of Paris; the other substances as given in the analysis remain unchanged.

Mode of Application.—This lime should therefore be applied to the surface in the fall, suffered to remain there, and then turned in the spring, for any summer crop; or it may be applied on the surface in the spring, and turned in in the fall, for a wheat or any other winter crop. In this way no possible damage could happen from its use; on the contrary, reliable gentlemen have in-