

comes water-slaked by rains and dew. *The air-slaked part is utterly and for ever lost on soils having in them undecomposed minerals.*

There is another objection, too, and a very strong one, to the use of lime in this way. By continued exposure in heaps it frequently runs together, and becomes cemented into lumps, so that much of it is lost—it cannot be evenly distributed—some places get too much, some too little.

I call the attention of persons who have been using or intend to use lime in this way, to the facts which I have given above in relation to the effects of lime, and feel sure that with due reflection they will coincide in my views, and act accordingly.

Lime, then, should always be used as quick lime or as water-slaked lime, unless on particular soils, the localities of which have been given to the people of the State.

The best time to use it is in the fallow land where it is freshly ploughed for a spring crop for corn, and it should be scattered as evenly as possible over the surface, and then harrowed with a heavy harrow, in order to mix it as completely as possible with the soil. When land is first ploughed for wheat, it then can also be applied to the surface—the subsequent ploughing to get the land in order for this crop, will mix it well with the soil. It can also be profitably employed before planting the corn crop, as in the spring repeated workings of the soil will always mix it well, and produce its full effect. The reason why I particularly urge the application and turning in of lime in the fall is, that then the decomposition of vegetable matter, is to a great extent suspended, and the lime is not so quickly converted into carbonate or air-slaked lime, but retains its power and exercises it to the fullest extent in acting on the comparatively insoluble minerals in the soil.

It should never be applied to the surface and suffered to remain there any length of time before being turned in, as a large quantity, dependent on the length of time that it is thus exposed, is lost on granite soils and others of this class.

Besides the sources of lime mentioned above, there is another—that from the refuse of Gas Light manufacture, known in common, and described in my former Reports, as “Gas House Lime.” The following is the composition of the Gas House Lime sold in the city of Baltimore; this analysis, however, does not represent the composition of Gas House Lime made in other places from other coal, as the quantity of sulphur compounds in this lime will vary in exact proportion to the amount of sulphur in the coal from which the Gas is manufactured, and its composition cannot be ascertained unless by analysis.

The following is an analysis and report of the Gas House Lime sold in Baltimore, and delivered on board of vessels at any wharf for five cents per bushel. The analysis of a sample of Gas House Lime shows its composition to be as follows: