

soils to which it is contiguous. The only objection to its use in its native state is, that it is, liable from the large quantity of organic matter which it contains, to produce *sorrel*. This will not happen when the vegetable or organic matter is destroyed by fire, or decomposed by quick or water slaked lime.

The next substance which we shall mention as a manure, is one used from the earliest ages to the present day, with various degrees of success.

Its cost to the farmer, the immense quantity, and the generality of its application, its great value when properly, the loss of labor, time and money, when improperly used, are all strong reasons why its nature, the difference of its different varieties, and the best mode of its application, should be well known.

### LIME.

Lime, as used in agriculture, is obtained either from limestones, oyster shells, Indian shell banks, or marl. In all of these different substances it exists naturally in the state of carbonate. The limestone subjected in kilns properly prepared, to a degree of heat sufficient to expel the carbonic acid, becomes quick lime, (oxide of calcium,) and is changed in its mechanical condition from a hard compact mass into a very fine powder. On exposure to the atmosphere, it absorbs from it carbonic acid, and returns into the same chemical condition as it existed in the limestone, its physical character remaining the same as when first burnt, that is, it still exists in a finely, divided state, fit to be equally distributed over the land. On the addition of water to quick lime, heat is evolved, and not a mere mixture, but a chemical union takes place between the water and the lime, and a hydrate of lime is formed—or in common language, it becomes *water slaked*. This compound contains of lime above 76 per cent, while air slaked lime contains but 56 and nearly one-third per cent. The lime obtained from oyster shells is reduced to powder in the same manner as stone lime, and is, in every respect, identical with it, as far as the lime is concerned. It contains, however, another substance—phosphate of lime—i. e., lime associated with phosphoric acid, the same thing which gives bones their peculiar value. This forms from one and a half to two and three quarters per cent in oyster shells. So that in them, we have all the properties of lime, with those of bone dust in that quantity superadded. Oyster shells also, contain a small quantity of magnesia, but not enough to influence their agricultural value. We obtain lime from oyster shells, purer than from common limestone.

The analyses of the following specimens of lime that had been sold for agricultural purposes, and comprising all of those used on the Eastern Shore, will show their composition :

Lime from North River, commonly called "New York Lime," is composed of

Water,\*

17.70 per cent.

\* Unslaked.