

and at the time when they most need them. On soils of this nature, proper means should be used for the disintegration of the soil. These are the use of Lime and the turning in of green crops, the suffering of them to lie on the surface or heavy dressings of coarse straw and litter. These will decompose the inert minerals, of the soil, liberate its Phosphate of Lime, and be equivalent in effects to an application of this substance, as it brings it forward in an available form. Practice, in adopting general rules from the above, would greatly err in adding annually on such soils costly Phosphate of Lime, instead of the cheaper and more permanent manures for its disintegration. There are other soils on which Phosphate of Lime would act well, because it does not exist in them in any form. On these it must be annually applied, no cultivation and no other manure can be a substitute for it. In the one case, practice teaches that Phosphate of Lime is *for the present* a good application, but science teaches practice, on the other, how to dispense with it by substituting cheaper manure, and how for the Phosphate of Lime in the latter case, there can be no substitute. There are thousands of acres of both of these descriptions of land in Maryland.

CALCAREOUS MANURES.

Under this term we include such substances as are used in agriculture, for the effects of the lime and magnesia which they contain.

The sources of lime are very various. There are common limestone, magnesian limestone, shell marl, pure marl, the skeletons of various shell-fish, the chief of which are oysters, shell sand &c., &c. Substances containing lime as a characteristic ingredient, are called calcareous from the Latin word, Calx, which signifies lime.

We will now give the nature, composition, history, uses and abuses of lime, in agriculture. These last would make a paper as long as the former; for it has been so often employed empirically without success—so frequently used without benefit, that its virtues have been obscured by the vices which surround it. It is like other strong agents, powerful for good or evil, as it is wisely or improvidently used, and beneficial or destructive, according to the correctness of the principles which dictated its special application.

Lime naturally exists most generally in combination with carbonic acid, where it forms the various kinds of limestone, marble