

have but little depth, and whose subsoil is impermeable to water, no supply of phosphoric acid or any other mineral substance can be received by the agency of the latter cause; they are therefore liable to continual loss of this substance by reason of the two foregoing causes of loss, and are deprived of any supply by drought; they, therefore, other things being equal, will soonest become deprived of their soluble saline ingredients, and soonest of those which exist in the least quantity—therefore only on shallow soils and hill sides should substances containing phosphate of lime be applied.

On these soils sulphuric acid and chlorine are deficient, and are to be supplied by plaster of Paris and common salt, according to directions before given.

The above practical recommendations are based on the result of many analyses and examinations of this variety of soil, and the results of the most successful cultivators resident on it.

The soils at the foot of the Catoctin Mountain vary as the washings from it are more or less mingled with the red soil. Several analyses were made of these from the farm of the Hon. F. A. Schley, and when the results of the applications recommended are determined they will be published in the county papers, and cannot fail to be of great interest to all having land in that location.

CLAY LIMESTONE LAND.—This is a distinct variety of soil, characterized by a gentle undulating surface, heavy compact clayey subsoil, loamy surface soil due to a large proportion of vegetable matter; the color of these soils is a deep yellow.—This soil has extensive limestone ridges running through it parallel to the mountain ranges, and lies adjacent to the red lands just described, on the west, and the blue or roofing slates on the east; it is most found on the west bank of the Monocacy and extends from what is known as “the glades” to the Potomac river, with the exception of a narrow belt of river bottom.

This soil is naturally very productive, but has been somewhat reduced from its original fertility by hard cultivation and by being manured almost solely by a special manure—plaster of Paris. This portion of the county is universally so well cultivated that I shall not attempt to give directions on this head; the farmers plow deeply and follow very judicious rotations. The results of many analyses of this variety of soil establish the fact that water-slacked lime, should be applied to it when a heavy compact unreduced clay is brought to the surface; and when loamy, air-slacked lime. The best variety of lime for these soils is a pure lime such as can be found in many places in it;