

times they are very compact, and then are somewhat loose and less stiff. Their deficiencies, however, are nearly similar, and they should receive the same treatment. In the upper part of Montgomery, above the Seneca, we have two other varieties of soils, which extend over a large part of Medley's district, in that county.

The first is the sugar lands, famous for their productive capacity; which is much more marked, near the mouth of the Seneca. It is compact, with a rich chocolate color. Crops upon it take an early start, and ripen quickly. Cropping out from the hills, we have shales nearly of the color of this, containing a large percentage of lime, irregularly distributed through them. Below these out-croppings the soil contains an abundance of lime, above them quick lime would be of benefit. When they are porous from the largeness of the particles of sand which compose them, they bring very fine, bright tobacco, and are extremely valuable.

The other variety is nearly of the same mechanical texture generally, but much lighter in color, which is due to the absence of the peroxide of iron. It is found in the neighborhood of Poolesville. It should also be treated with lime—magnesian is best for it.

In the white variety, that overlying the white sand-stone, there is a deficiency of phosphates, which are found in sufficient abundance in the "red soil," this overlying the red Seneca sandstone.

RED ISINGLASS SOILS.

There is another variety of soils distinctly marked, and extending over a large part of Montgomery and Howard counties. Their chief characteristic is the presence in them of isinglass (mica), and their reddish color, derived from the presence of peroxide of iron. They are quick lands, easy to work, stand drought well, and have a good depth of soil. Their great deficiency is lime, they contain generally a good proportion of phosphates, but in an insoluble condition. Their fertility varies very much, some being at present very rich, others very poor. Their physical characteristics are remarkably good, when improved they bring all kinds of grain, fruits, and where they are stiff enough, very fine timothy grass and wheat. They are very nearly allied to another variety—the

WHITE ISINGLASS SOILS.

These have not so much peroxide of iron and alumina as the red variety, and are of a lighter color. They differ as to chemical constitution in rarely containing a sufficiency of phosphoric acid and of chlorine. It is a very *kind* soil when improved, which is best effected by the preliminary steps which I have advised when speaking of land, poor from any cause; and then for permanent improvement, magnesian limes, with dissolved bones, should be