

This mode prevailed in former years in those parts of Pennsylvania where liming land was practiced, as well as in Baltimore county. The usual quantity then was from 100 to 120 bushels per acre, whilst now the common dose is from 40 to 50 bushels, with an *equally good effect*. The explanation is that the percolation of water through the soil dissolves and takes the lime slowly downwards. If, however, it be placed at the bottom of the furrow it is at once out of reach of most of the roots of our crops, and its subsequent movements are still further downwards.

We must also bear in mind that the longer lime or marl lies on the surface the more completely will the lumps or shells crumble down so as to mix intimately with the soil during the after culture.

I have observed so much evidence of carelessness in spreading lime and other manures that I feel it a duty to call attention to the subject, which I deem very important. We know that we can apply a sufficient quantity of lime to render a soil for a time absolutely sterile, and this may be to any given area. Now I have often seen small spots in every part of a field thus overdosed and *injured* with lime, whilst parts of the intervening spaces suffered from having too little or none at all. In such cases the farmer incurs the cost of the lime with comparatively little benefit. The little extra care and labor required to prepare and spread the materials evenly over the whole space to be manured will, in all cases, be reimbursed by greater yield of crops.

### 3.—FRESH WATER MARL.

I must express my regret that this material should continue to be so much neglected. Some valuable deposits of fresh water marl in Washington county were noticed in the first report. I have since examined several places in that county, as well as in Frederick, one of which, in the latter county, deserves especial notice. It occupies a narrow vale extending from the Monocacy to and beyond Buckeystown. The waters of the brook and its tributary springs contain large proportions of lime, which is held in solution by carbonic acid. When this is dissipated by exposure to the sun and winds the lime is deposited. During high freshets in the river the water backs for some distance up the vale, in which (from there being no current) it deposits a sediment abounding in fertilizing matters. Some digging on the farm of Mr. Sifford proved many alternations of these deposits with the carbonate of lime, so as to have left an immense amount of a really valuable manure. The trials made of it by Mr. Sifford, who owns a large portion of it, have clearly