

lime indicate, that if plowed deeply into the soil, as was formerly the practice with many persons, much of it is entirely lost, because the percolation of water through the soil will dissolve and take it out of reach of the roots of plants.

When uniformly spread upon the surface the action of the frost tends to crumble down the lumps and grains which may have been imperfectly slaked, whilst the rain water gradually dissolves and distributes the lime throughout the soil.

It is manifest, therefore, that it should *on no account be plowed in*, but kept as near the surface as possible. If it be necessary to apply it just before a crop is sown or planted, the ground should be previously plowed, and *harrowed also*, to prevent the lime getting down between the furrows. Experience has abundantly shown that the most effective applications of lime are those in which it is spread uniformly over a field in grass at least two years before it is to be plowed. Where grasses are not cultivated the lime may be applied to the clover ground in the autumn of the season after it is sown. Even if this limed clover sod be plowed for wheat in the year following, the good effects of the lime will be of a decided character, but still more so if the plowing be deferred to the second year, for either fall or spring crops.

If land capable of bearing a fair growth of clover, be treated in this manner, and the clover be not cut but pastured for two seasons, the productiveness of the soil will be found much increased. Under the old system of spreading lime, without paying proper attention to slaking, and immediately putting it in with the plow as far out of reach as possible, it was quite common to apply 100 bus. to the acre (and sometimes even more) of the fresh pure lime of Baltimore county. This, when slaked, will increase in bulk to from 200 to 250 bushels. At the present time the conclusion of most farmers seems to be that, if properly applied, one-fourth to one-half the quantities at a time answers fully as good a purpose. It is my belief that under the *burying* system the benefits of at least one-half the lime was utterly lost, and of course the farmer was a loser to the amount of one-half the cost he paid for it.

2.—*Marl.*

The same causes which indicate that the soil upon which lime has been spread, should not be plowed within less than 18 months or 2 years, are equally applicable to marl. If the arrangements of the rotation will not permit the application to be made to the clover or grass sod, we may harrow it as in the case of lime; but in using marl it is very important that it should be exposed one, or better two years on the surface. By this means the harder shells will be more completely disintegrated and become more intimately mixed with the soil.