

substances in which they are deficient : deficiency or absence being always the test of a manure. However valuable anything may be in itself, it is no manure when applied where it already exists in proper form, and in sufficient quantities. From what has been said of the composition of these soils, the rationale of their improvement is plain, cheap and certain. They are only deficient in lime : Then it should be applied to them in the purest form,—oyster shell lime is the lime for these soils, because, in reference to them, it contains less impurities than any other kind of lime. If Wrightsville, New York, or Schuylkill lime, be applied, much less of manure, for the same amount of money and labor, is given to the soil, than if oyster shell lime be used. Each of these limes contain a large per centage of magnesia, and more sand, clay, and iron, than that from oyster shells. As these soils contain enough of magnesia, all the magnesia applied to them is so much lost in money and labor, to say nothing of the loss of the crop which a pure lime would have produced.

It matters not in what form the lime be applied, as it is a mere question of cost, whether pure oyster shell lime, shell marl, or the mould from Indian shell banks be used : all these act by supplying lime, the prime deficiency of the soil ; they will act and bring it to a high degree of fertility, producing abundant crops of every kind, and the finest, heaviest crops of wheat ; for these soils, from their texture, is peculiarly adapted to this grain.

The manner of applying lime to these lands now requires some notice. If it be applied to the surface a long time before the crop is to be planted, the rain, instead of carrying the particles of lime down into the soil, will carry them off from it, and in this way a large part will be lost. In loose, porous soils, this surface application will answer very, well, but hard compact soils should be first ploughed up, and then have the lime scattered immediately on the surface. In this way none will be lost.

The *quantity* of lime to be applied, is the next subject of consideration. Here again we have to consult fertile soils of this class. Science has given them a language, every sound of which is truth.

The most productive have not shown over two hundred bushels of air slaked lime to the acre, to the depth of twelve inches. There is no need then, of ever giving them more than this quantity. Six or seven-tenths of one per cent is always enough. Up to this point, the larger the quantity the better will be the crops. All who have this variety of soil should apply lime to them. If it be impossible to apply an hundred bushels, apply fifty ; if not fifty, then twenty-five ; if not twenty-five, then ten bushels ; apply some, and do it at once, make a beginning, however small, and its good results will soon persuade all who make the effort, to surmount whatever trifling difficulties may intervene, and lead them to apply the necessary quantity.

Besides lime, a slight dressing of compost manure, made from the scrapings of the woods, will greatly aid in the improvement of these lands. It will materially quicken the action of the lime.