

about the same time to the soil—the intervention of a year would be better perhaps, for the reason, that it very rapidly decomposes the manure and liberates faster than is necessary the valuable gaseous matters, which should remain in the soil as far as possible until the plants absorb them. In hot weather this effect would be more pernicious than when the ground is cold. These objections to mixing lime with manure do not apply to marl, which acts very slowly upon manure. Lime is useful in composts which contain little or no stable manure, in fact both experience and theory coincide in favor of the opinion, that the most economical mode of using lime is by mixing with at least five or six times its weight of earth, (which is the better, if rich in vegetable matter,) the mixture should lay several months before using. Lime applied in this way acts more promptly upon the growing crop than when applied alone, and the bulk of matter being greater it may be more uniformly spread over the ground.

Almost every farmer can find materials for such composts in swamps or ditches. As the decay of organic matter depends upon the presence of the oxygen of the atmosphere, of course lime aids it most when near the surface, and when buried deep in the soil is almost if not quite useless for this purpose.

SECTION 6.—*Of the quantity to be applied.*

In the present state of knowledge, experience should guide us in regard to the proper quantity to be applied to the acre, inasmuch as a great diversity of opinion exists among those who use lime. And this diversity of opinion, we are strongly inclined to believe, will continue to exist until analysis is resorted to as our guide—both as to the *properties of the soil* and the *quality of the lime*. In England, it is common to use from 160 to 320 bushels per acre. The heat of our summers in rapidly effecting the decomposition of vegetable matters, does much here, that in England requires the aid of lime—and the alternate freezing and thawing of our soil in winter, renders less lime necessary to promote the disintegration of the mineral substances.

It was formerly more common to apply lime in larger doses and at longer intervals than seems to be preferred now. The more carefully the lime is applied, the less is required, and from all the information we at present have upon the subject, we incline to the belief that a quantity equal to about 40 to 50 bushels of *good quick lime*, should be applied to an acre, of most of our soils, and repeated every 8 or 10 years; or what would be better, perhaps, half that quantity in compost applied at shorter intervals. The reason why lime must be repeatedly added to soils, we hope we have rendered sufficiently obvious to all in the facts already stated, (because we regard it as a highly important matter,) that the quantity is incessantly being reduced by what is carried off in the rain water, water percolating through the soil, absorbed by plants and carried off in the crops, &c. We think then that experience confirmed by theory points to the propriety of applying small doses, at short in-