

tallize together in all proportions." The precise quantity of magnesia can only be determined by chemical analyses of the stone.

There has been a long and wide-spread prejudice against the use of this substance in agriculture; opinions adverse to its use have been promulgated by ancient writers on the subject of agriculture; those have been taken up and adopted by others, without examination, until, to urge the use of magnesian lime was a heresy unheard of in the annals of agriculture. As long as men had opinions not founded on reason and investigation, and so long as they did not possess the means of investigation, they were entitled to charity for their errors; but those who now commit them, can give no such palliation for their commission. When the examination of the ashes of plants showed always a large per centage of magnesia, common sense would seem to show that, inasmuch as this magnesia could only be derived from the soil, that it should be applied when wanting or deficient in the soil.

On the soils not containing a large quantity of vegetable matter, from twenty to forty bushels of magnesian lime to the acre is the best quantity. This quantity should be applied every three or four years, until about two hundred bushels shall have been used. The larger the per centage of magnesia in the lime, the smaller the quantity to be used.

The proper quantity of lime per acre is a question, the solution of which is attended with great difficulty. To arrive at as correct conclusions as possible, I have examined very many productive soils, and if their fertility depended solely on lime,—if it was the only element to enter into the calculation, we might very readily solve the question. But the fertility of a soil does not depend upon the quantity, of any one constituent, but upon the proper proportion of them, and also upon the mechanical texture of the soil. To arrive at conclusions, then, we must not only have examined very many different soils of known fertility, but also be cognizant of the action of different quantities of lime upon soils of known composition.

The proper quantity, too, varies upon different soils, some requiring a much larger quantity than others, whilst to many lands it is entirely useless. The proper quantity depends—

- 1st. On the quantity of insoluble mineral matters in the soil.
- 2d. The quantity of undecomposed vegetable matter. The mechanical properties of the soil, when that is the only fault, can be more cheaply improved by other means than lime.

Shell banks are another source from which lime is supplied to soils in the tide-water counties of our State.

These shell banks are deposits of oyster shells made by the aborigines of our country, and sometimes cover an area of forty acres, in any places to the depth of six or eight feet.