In the Patent Office Report of 1856, Mr. Brown recommended the use of five pounds of sulphuric acid to 100 lbs. of bones, and to compost them with muck.

An article in the Country Gentleman of the 28th October, 1858, by Prof. Gilman, of the Va. Military Institute, refers to an article of Prof. Norton, which recommends 50 or 60 lbs. for whole bones and 25 to 45 lbs. for ground bones, and adds that he (Prof. Gilman) found even 100 lbs. of acid were not sufficient to dissolve 100 lbs. of bones.

The real state of the case is, that if it be desired to dissolve all the phosphates in 100 lbs. of bones, or about two bushels, we must apply 59 lbs. of sulphuric acid, whose specific gravity is 1.85, diluted with three times its weight of water. And to effect a complete solution they must be frequently stirred during three or four weeks. If the bones be whole it will require many months to dissolve all their phosphates.

If it be desired to dissolve a part only, a less proportion of acid may be used. My own opinion is, the less the more economical to the farmer in the long run.

We must not omit to count the cost of applying sulphuric acid to bones, which, of course, will be modified by the proportions used.

Let us first ascertain the cost of effecting a complete solution of the phosphate of lime in bones :

1st. 100 lbs. of ground bones, costing . . . $1.46
    59 " sulphuric acid, (3 cts.) . . . 1.77
We should add for labor and the cost of a vat or tub, which is soon destroyed, freight on acid, &c. .08

                                                 $3.31

2nd. If we use acid sufficient to dissolve half the bones, the cost will be as follows :

100 lbs. bones, ... $1.46
  30 " sulphuric acid, (3 cts.) 90
Labor, &c., as before, ...08

                                                 $2.44

As a bushel of bones will average in weight 45 lbs., we have to deduct 55 per ct. to get at the cost of one bushel; therefore,

One bushel fully dissolved will cost . . . $1.49
One bushel half dissolved will cost . . . 1.10

It will be seen, therefore, that by dissolving we much more than double their cost, and if but half dissolved their cost is increased more than two-thirds in amount.

CHAP. XI.