

The above are the results obtained from a fresh clean piece of bone. Those collected by the bone crushers cannot but have more or less of dirt adhering to them, and, after being crushed, they will absorb a portion of water. This adds to their weight probably about 5 pr. ct., and, of course, lessens the proportion of the other constituents; but it will be safe to assume that 100 lbs. of ground or crushed bones of commerce contain an average amount of gelatine and other azotic compounds, 32 lbs.

And phosphate of lime, 53 "
 Of this last there is phosphoric acid $24\frac{1}{2}$ "
 And lime, $28\frac{1}{2}$ "

The proportion of ammonia produced by the decomposition of the animal matters may be estimated to average about 7 parts of the above 32.

We may, therefore, assume the value of 100 lbs. of crushed bones to consist in:

Ammonia,	7 lbs.
Phosphoric acid, 24.5 }	53 "
Lime, 28.5 }	
Carbonate of lime,	3 "
Fluate of lime,	$2\frac{1}{4}$ "
Phosphate of magnesia,	2 "
Soda, muriate of soda, &c.,	$2\frac{1}{4}$ "

In addition to the above, there are carbonic acid and sulphuretted hydrogen, produced by the decomposition of the animal matters.

It has been stated to me that crushed bones had, in some instances, been adulterated with useless foreign matters, but I have met with no certain evidence of the fact; on the contrary, an examination of a number of samples which farmers had received from several different sources, showed them to be as pure as is practicable with an article of that kind.

There are difficulties in the way of adulterating ground bones, occasioned by the fact that a small addition of foreign matters can be readily detected with a good pocket lens, which every farmer ought to possess.

They are not injured if boiled merely long enough to abstract the grease they contain, but if the boiling be continued until more or less of the gelatine be removed, their value is lessened, because it is from the gelatine that the ammonia is produced. Pure fresh bones should lose from 33 to 37 pr. ct. of their weight, when burned in an open vessel until they become white. But if they have been robbed of part of their gelatine they will lose less weight by burning.

Prof. Johnston, in his *Agricultural Chemistry*, refers to a