Bushels.		Straw. lbs.	Silica. lbs.	Potash. lbs.	Soda. lbs.	Lime. lbs.
40	oats,	3000	223	39	2¾	6¼
30	barley,	1840	123	8	5¼	11½
20	rye,	3200	100	3½	3¼	6¼
20	wheat,	2400	98	3¼	3¼	4

This table shows one unexpected result. Wheat—which is said to require lime in the soil—has actually less lime in its ashes than either of the others. Barley seems to require the most lime, whilst oats take vastly the most potash. So far as the inorganic matters in its ashes give an indication, wheat ought to do as well as either of the other crops on a poor soil. Does it? We had supposed not.

The reasons why oats are injurious to the after crops of grass, perhaps appear in the table. They make a greater draught upon the silica and potash the soil,

The table shows that oats require a very large amount of the matters which enter largely into the composition of rocks and sand—for sand is only finely broken rocks. It must not however be inferred that *sandy* soils are better for oats than any others, for our common loamy soils contain nearly eighty per cent. of silex or sandy matter; and clay soils are more than half silex in most cases. In these soils, where the silex is very fine, the plants may find more soluble silex, or silex in a state that they can take up and make use of, than there is in the sandy soil, where the silex is more abundant in quantity, but being in larger particles, is less well adapted to nourish and strengthen our crops. But when we come to the bog-lands or peat-meadows, where vegetable matter is the principal ingredient and where silex is found only in small quantities, we may make the inference that wheat and rye might find a sufficiency of silica, even where barley and oats would fail to get a supply.

This table will give testimony in favor of our wanting something more than vegetable matter, if we would get a strong and healthy growth, and would have it stand erect untill it has matured. Want of silex lets the crop lodge or fall.

VALUE OF AMMONIA TO PLANTS.

"I have stated to you that most plants require, in addition to water and carbon, a portion of nitrogen. This also comes from a gaseous substance in the atmosphere. Although nitrogen forms the largest element in the air, (75 per cent,) yet it has been pretty well settled that plants do not obtain their nitrogen by decomposing common air, but derive it from ammonia, which is furnished to the atmosphere in great abundance by a world of decomposing vegetables and animals. It is the ammonia that escapes from putrifying substances that causes their offensive smell. Now, again comes up the practical question: How are we to collect this highly volatile gas, and transform it at the cheapest rate, into wheat, beans, cheese and wool, of which it is an important element? Rain water has a strong affinity for ammonia—which is a compound of 14 parts of nitrogen and 3 of hydrogen. Water at 50° will absorb 650 times its bulk of this vegetable food. Every rain, then brings considerable quanties of it to the ground. It is the ammonia in rain water that imparts to it its peculiar softness in washing the hands or clothes. It is the ammonia in snow that makes it valuable as a manure; and it is the ammonia in rain water that causes it to putrify in some degree like an animal substance, when permitted to stand in warm weather in a close vessel over ground. The first fall of rain after a long drouth is much the richest in this gas. Being extremely volatile, it escapes into the air again after a warm shower, much quicker than water evaporates. What then will aid the cultivator of plants, and seize this volatile ammonia, as lime does carbonic acid, and hold it permanently about their roots, in such a shape that it will feed them all they need and no more? For an excess of this stimulating alkali, like an excess of salt in our food, will destroy life instead of supporting it.

Common Charcoal is the cheapest, and therefore the best material to apply to cultivated fields for this purpose. It will absorb ninety times it bulk of ammonia, and will give it out slowly to the vital attraction of the roots of plants. Most of you know that charcoal will correct the taint in meat—will purify rain water in a suitable cistern, so as to render it the purest water for culinary purposes. Such charcoal should be often renewed in filtering cisterns, and when saturated with ammonia, is an extremely valuable manure. The liberal application of this well known substance to the wheat fields in France, has mainly, in connection with the use of lime, within the last ten years, added 100,000,000 bushels to the annual crop of wheat grown in that kingdom. The charcoal should be sown in May, at the rate of 75 bushels per acre, well pulverized. This subject is one of vast practical importance. By studying the science of agriculture, you may grow fifty bushels of good wheat on any acre of your land, I have good reason to believe, every year, bating of course extreme casualties.

"You all know that a single kernel of wheat will sometimes, when its fecundity is highly stimulated send up twenty stalks, and that each stalk will bear a head containing 100 kernels. Here is a yield of 2000 fold. Nature then has rendered it practicable to harvest 2000 bushels of wheat from one bushel of seed. The most skeptical among you will not deny that 2,000 kernels have been produced from one kernel, and that the same cause that produces such a result in one instance, will ever operate at all times, and under like circumstances in the same manner. Hence it is but reasonable to say that nature is quite as willing to produce fifty bushels of good wheat on an acre of ground every year, mark me, *if her laws be obeyed*, as she is to grow fifty bushels of weeds every year on the same ground."—*Cor. of Cultivator.*

WHEAT—LIME.—We say yesterday a parcel of very superior red wheat, weighing sixty-four pounds per bushel, which had been purchased for city gardening, and which was raised under circumstances showing what good management may effect in the agricultural line. The wheat in question was the product of a field, which a short time since was part of a waste common, that had been uncultivated for many years, and was deemed to be too poor and worn out to yield any thing. After enclosing it, the present owner put lime upon it in the proportion of one hundred bushels to the acre, and subsequently followed the lime with a liberal application of stable manure. Last fall the field thus prepared was sowed in wheat, and has just returned a crop of the very best quality, averaging thirty bushels to the acre.—The field thus restored and enriched will require but little additional outlay for years to come, and in the meantime will yield a liberal annual return to the sagacious owner.—*Balt. Sun.*