[from the Yankee Farmer.]

PREPARATION OF CLOVER SEED.

We have received two communications from Joseph Warbasse, of Newtown, Sussex county, New Jersey, on the preparation of clover seed for sowing, by which the writer calculates he makes a saving of one half the seed required. This is a matter of no little consideration at the present price of seed. Mr. Warbasse's process seems to be predicated on the assumed fact that ordinarily more than one half of the seed sown does not germinate, either from the want of the moisture to swell it or of gypsum, the presence of which he considers essential to stimulate the germinating principle. Mr. Warbasse is probably right in stating, that one half the clover seed sown does not come up, and he is strengthened in his supposition that much of it remains dormant in the soil by the fact he states,, and which is of common notoriety, that plaster sown upon light lands, will bring in clover, where no seed is sown at the time Mr. Warbasse's remedy for the evil is, to saturate and swell the seed thoroughly in soft water. to which a small quantity of salt is added, and after it has become well saturated, to coat it with gypsum, &c., the effects of which seem to be to prevent the escape of moisture which the seed has imbibed, and thus insure its germination and growth. A further advantage may be, that the salts impart fertility to the soil which comes in immediate contact with the seeds, and causes a more vigorous growth. Such seems to be the philosophy upon which Mr. Warbasse's is founded. We give the process of preparing the seed in his own words:—

"This seed is to be made thoroughly wet with a strong pickle from your pork cask, so as to wet the floor; then let it remain in a heap one day, it being thus made larger in each grain. In cold weather warm your pickle and give it an additional salting next day. Spread it about 1 or more inches thick on a dry floor, and in a few days a crust of salt will be formed on each grain, again enlarging it; when you wish to sow it, the weather being calm moisten it with more salt pickle; spread it over a floor, and put on it about three quarters or more of plaster to a half bushel of seed: mix it well: the plaster will adhere to the crust of salt on each grain, still further enlarging it: and thus you have in bulk nearly one bushel out of half a bushel of seed. Keep it moist in a cellar until you sow it, and take no more seed in your fingers but rather less than in the old way, making longer steps while sowing, and go over the eight-pace land three times. I have thus sowed twelve acres or more with one bushel of seed, and all in good condition.

For want of plaster, strong dry ashes may be used, not over moist; but as I have not fully tested the advantages of the latter method, I shall leave it as it is."

We doubt not the correctness of the above experiment; but the recommendation of sowing them is not based upon either sound theory or practice. From eight to ten pounds of clover seed per acre is not too great a quantity: an experiment on this point will convince the farmer of the propriety of sowing his seed, of almost every description, with a liberal hand.

We look forward to the day, with pleasing emotions, when agriculture in this country will have made such rapid advancement, that seed grain, of every description, will be prepared previous to sowing, by some chemical process, which will have the effect of increasing the product 50 per cent.

VALUE OF HORN SHAVINGS AS A MANURE FOR CORN.

Its Mode of Operation—An Artifical Substitute—Importance of Urine, Charcoal and Plaster—and, The best Method of applying them.

To the Editor of the American Farmer:

Dear Sir,—Although an entire stranger, you have kindly noticed some remarks of mine on various subjects connected with the practice and science of rural economy, for which I desire to make due acknowledgement. If the following suggestions be deemed worthy of the persual of your readers, they are written for that purpose.

Last Thursday evening we had an interesting agricultural meeting at the Hall of the State A. Society. His honour, the Mayor, Friend Humphrey, Esq., stated that by the use of a small quantity of horn shavings obtained at a comb factory, and put into each hill of corn, on two acres of ground, *very poor* and *sandy*, he had harvested 120 measured bushels of shelled corn. Where none of this remarkable fertilizer was used, the crop did not exceed 15 bushles per acre. Of the correctness of this statement there can be no doubt. I inquired carefully into the matter as it has an important bearing on some experiments of my own, and on the science of vegetable physiology. This was the material fact in the case: a few pounds of ammonia in horn shavings called into existence on an acre of land an increase of 45 bushels of corn, together with all the extra stalks, leaves, &c. necessary for the perfection of so much grain. How did the horn shavings operate to produce a result so extraordinary, and truly useful?

In the first place, I conjecture that they were decomposed slowly and gave up to the roots of the plant a moderate supply of ammonia for months. This active substance served alike to feed and stimulate the living assimilating organs of the corn, from the first sprouting of the germ to the full maturity of the ear. Had the same quantity of like constituents been placed in the hill when the corn was planted, but in a condit on to escape at once, like hartshorn from a smelling bottle, their fertilizing influence would have been next to nothing. But it may well be asked: How can one half ounce of ammonia, or any thing else, produce 100 ounces of living vegetable matter?

It will be borne in mind, that the increase in this instance was from 15 bushels to 60 per acre, and of course the soil contained enough of the elements of corn to yield that small crop without the aid of horn shavings. A ripe dry corn plant contains, I belive, between two and three per cent of nitrogen—the important ingredient in ammonia. A small quantity then of ammonia will suffice. But it has been demonstrated that plants derive a considerable portion of their nitrogen from the air, and not from the soil—I mean, not from the nitrogen in the atmosphere itself, but from ammonia, nitric acid and the like gaseous matters that contain it, and fall to the earth in dew, rain, and snow. It is also worthy of consideration that about 94 per cent of corn plants are composed of the elements of water and carbon; and that a sterile sandy soil contains but a small portion of the carbon necessary to build up a crop of corn equal to 60 bushels per acre. The subject is not without its difficulties. I will, however, venture a solution of the problem, whether satisfactory or otherwise.

The slow decomposition of the horn greatly nourishes the young plant, and gives to it the benefit of a larger and longer root, and shortly more of them, than it otherwise would have. This enables it to imbibe more food from even a poor soil, and from a greater distance from the stalk or stem, than it could command without this artificial fertilizer. As a consequence of obtaining a double quantity of nourishment from the soil, its leaves grow to a double size, and of course present to the gaseous elements in the atmosphere a double surface for drinking in carbonic acid and other necessary ingredients Now, if the roots being double in number, length, and size, or any thing approximating to it, would double the crop from 15 bushels to 30; then the doubling of the length, number, and size of the leaves ought to double the crop from 30 to 60 bushels per acre—being just the gain actually harvested by Mr. Humphrey. Of course the precise increase in the roots and leaves of corn, is hipothetical. But that a field of corn that will yield 60 bushels per acre has far more roots and leaves, of surface or those bibulous organs, no one will deny.

As a good deal of the nourishment of plants taken up by their roots comes from the atmosphere in falling dews and rains, and also from weighty carbonic acid, it is important to have a light, deep, mellow soil, whatever may be its strength For other things being equal, a free soil will allow more and longer roots to grow in it, than one which is hard, shallow, and impenetrable.

Every man, however, cannot have a comb factory at his door; and it may not be amiss to inquire what is the cheapest and best substitute for horn shavings?

I answer, *human urine and the liquid and solid excretions of domestic animals.* The ammonia, and other volatile elements contained in all these animal matters should be *fixed* in something like plaster of Paris, charcoal, black vegetable mould, or muck, before they are applied to the soil. Where I reside, charcoal is cheap and can be used to fix the volatile matters in urine and manure to great advantage. It can be applied to the soil before sowing the seed, or as a top dressing to wheat or grass with good effect, without any thing added to it, at from five to 75 bushels per acre. If coal be expensive, 10 bushels mixed with one of gypsum and moistened with human urine will form a valuable compost. A small handful of this compound covered in the hill with corn when it is planted, will have an excellent effect. Seed corn soaked in a strong brine of sal ammoniac and rolled in plaster, will give a better crop for the operation. Urine that is allowed to stand in an open vessel soon loses nearly all its volatile ammonia. It should be applied at once to a heap of fine coal, or the latter should be placed in a tub, barrel, or vat. Not a particle of offensive gas will escape from the coal till it is saturated. A much larger portion of gypsum can be used if it do not cost too much. To raise a crop of corn on poor land, and plow in after harvest all the crop except simply the kernels of grain, which may be 25 bushels, is a pretty cheap method for renovating a barren soil. This adds a good deal of carbon, and all the salts contained in the ash of the plant except what are in the berry.

All the information I can acquire from foreign publications, the experience of many gentlemen of science, and from my own observation, goes to establish the fact that a large quantity of manure is not essential to good crops, provided the little we use be precisely the matter needed, and in a condition to act rightly upon growing plants.

Yours respectfully,

Daniel Lee.

CHARCOAL AND ITS USES.

Five years since, I received from Italy several hundred mulberry trees, comprising the rarest and most tender varieties, packed in pulverised charcoal dust, in tight boxes. On their arrival, I found the roots as well as the buds had grown to the length of six inches. The growth was of course perfectly white, and when exposed to the atmosphere wilted immediately—the trees were in the most perfect order.

This led me to try various experiments with charcoal dust: such as striking soft wooded geraniums, of one summer's growth, wax plants, grape cuttings, and various other plants, with complete success. I likewise use it in growing vegetables, planting grape vines, trees, shrubs, &c., in considerable quantities on strawberry beds, potato fields, grass and wheat lands, sown broadcast. Last Febuary I cut a young grapevine into single eye in the open garden, and freely manured it with charcoal dust Before the 20th of August it had grown 32½ feet. My gardener soaked a kernel of sweet corn in *spirit of ammonia* double F. F., for the space of 12 minutes, and planted it in a pot filed with pu