

muc., and we must ask if the Egyptians have lost by their exportation of nitrogen, or are we daily losers by the use of so much? Also, from whence comes the nitrogen for the production of wool in wool exporting countries, and of the skins exported from South America. Whatever quantity of nitrogen is used as manure, the plant can only take up the requisite quantity and the rest must be wasted, and if all plants can obtain sufficient from the atmosphere, the whole applied as manure must be wasted, and if other lands can do without nitrogenous compounds as manures, why cannot ours? One ton of shoddy, containing 370lbs. of nitrogen, is considered a small quantity of manure for an acre of potatoes, which only contain 82lbs. of nitrogen. How then has the nitrogen acted as manure? Nitrogen cannot supply carbonic acid to produce sugar, gum, or starch, nor can I see by what means it is to increase the size of the plant, otherwise than by acting as a mere constituent, and this constituent quantity it seems to take entirely from the atmosphere. Water is carried about in the wind, and will supply plants on any quarter of the earth's surface. Carbonic acid floats about in the same way, and timber is brought from the Canadas or Baltic, and returned by the wind in the shape of carbonic acid, to be again reformed into timber. But if all the carbonic acid brought from Canada could be condensed here, we have no reason to think that we should stop the supply of timber. Carbonate of ammonia is carried in the same way, but if it was all converted into the sulphate, as the Manure Economizing Company would have us do, I do not think we should receive less corn, or wool, or skins from abroad. Thus there is this uniformity among the organic constituents of vegetables, and they cannot be accumulated in one place with any benefit to crops, because we know of no instance where nature has attempted such a thing. All crops have an equal chance at them, and when one plant gets more than another, it is not that it has had them supplied to it in larger quantities, but that it has had means, by reason of a good supply of inorganic constituents, of appropriating a larger quantity to its uses. We cannot produce carbon in excess, by supplying carbonic acid, nor can we make a plant grow more by supplying carbonic acid and water in excess. It is the same with ammonia, which, if applied in excess, will suppress the formation of nitrogenous compounds. It is the inorganic constituents that determine the quantity of the organic to be appropriated to the use of the vegetable.

How then does ammonia act?

PROTECTION AGAINST DROUGHT.—The best protection against drought that can be practised to a great extent to advantage, is stirring the earth frequently to keep it light, loose and mellow. We have made experiments and observations on this subject, and have observed the good effects of stirring the soil in a dry time, in a most striking manner. When land that had not been ploughed nor stirred in any way, was dry down ten inches, and there scarcely any moisture could be perceived, land by the side of it, ploughed and frequently hoed, but not manured to give it any advantage, was moist within a few inches of the top, in a very severe drought.

In time of a drought last summer, we observed a number of farmers, believing in these principles, were acting on them as they thought, but were making a wrong application of their labours. They ploughed between the rows of their corn and potatoes, and then drew the earth around the plants,

making high hills. The consequence was that the roots of the plants would become exposed between the rows, and the hot sun dry down still further, the loose earth being removed; and covering up the dry baked earth around the hills would not invite up the moisture in those places. In such cases we took the hoe and dug up and pulverized the soil over the whole surface, leaving it level, giving a specimen of the course we had pursued with a marked success, and though the system was acknowledged to be reasonable, yet some of them could not be induced to leave the old method which they had long pursued, and so they went on losing their labours, or rather employing their labour to the injury of their crops, so far as drought was concerned.—*Boston Cultivator.*

STRAW.—How can I make my cattle eat straw? I have often asked of some experienced farmers. "Give them less hay," was the general reply. Not liking this mode, however, and knowing that good farmers in England and this country made free use of straw as food for cattle, I resolved last summer, when threshing, to change my plan. I stacked it as usual, but in the progress of the work, sprinkled on from one to two bushels of salt. I used the "Pitso Thresher," which gave me the additional advantage of mixing the chaff through the whole. Well, during the warm weather in the first part of this month, my cattle, instead of wandering about with but little appetite, might be seen any day eagerly engaged in filling themselves with straw. At night, when the cows were tied up to receive their roots, their hay would be almost untouched. Their rotund appearance left me no apprehension of their starving however. This was continued until nearly the present time, when I was obliged to reserve the remainder of the stock for the use of the stables. Nearly a month's feeding of hay was saved.—*New Genessee Farmer.*

SOWING GRASS SEED IN AUGUST.—The plan of sowing grass seed in August, is a very good one. It succeeds as often as other modes do, and when you have been prevented, by any cause, from putting in what seed you designed with other crops in the Spring, you need not hesitate to scatter it liberally now. It should be done rather earlier in Maine than in Massachusetts, in order that the grass may get well set before winter, and there will then be less danger of its being winter-killed. Those who have tried this mode of cultivating grass, have succeeded very well. We first saw it recommended by Dr. Buckminster, of the Ploughman, but some others claim the honor of the mode. Nature certainly is before them all, as she has sown all her grass seed during the latter part of Summer and in the Autumn, from time immemorial. It is some credit, however, to be observant of Nature, and to ascertain her laws so as to follow them out successfully. The Grasses that we have seen cultivated in this way, were Herd's Grass and Redtop, but Clover is said to do pretty well also, if mixed with them. The sward was turned over after a pretty light crop of hay had been taken off, and after the ground had been thoroughly harrowed a liberal quantity of seed was put on, harrowed in, a roller was used to smooth it down and bring the top of the soil in close contact with any seeds that may be lodged in the little cavities. The seed was soon up, and the proprietor is now rejoicing in a bountiful crop of hay, the results of his industry and skill.—*Maine Farmer.*