has proved very detrimental to trees, and we have, for a number of years, dispensed with it entirely. We prefer clay and loam and a little fresh manure, with hair intermixed, to any waxen or greasy composition. Perhaps wax may be so made as not to injure.—*Editor Mass. Ploughman.*

DANA'S PRIZE ESSAY ON MANURES.

EXTRACT—SECT. IX.

Much has been said about tanks and vats, and urine pits, and many plans devised for preventing the escape of volatile ammonia.—But when once the action of ammonia upon mould is understood, as we have already pointed it out, I am persuaded, reader, that these tanks and vats and urine carts, will appear to you not only expensive and cumbersome, but useless. Your first point is, to save your ammonia, your second is, never to use urine in its caustic or burning state. If you do, you will as assuredly burn your crop, as the puddle formed by a cow burns the grass upon which she empties it. Here the urine forming caustic ammonia acts as caustic potash or a lump of stone lime left to slack upon the grass. You want to change this burning or caustic ammonia into mild ammonia, or to combine it with some substance which has not only that effect, but also keeps it from flying away, Unless you understand, then, the principles of these actions, and apply them too, your labour is all vanity, when you attempt to save your cattle's urine.

These principles are in number two.—First, the principle which changes caustic to mild ammonia, is carbonic acid derived from air or decomposing mould. Second, the principles which render ammonia less volatile, or wholly fixed, are certain acids formed in mould, as sour mould or certain salts which give up their said to the ammonia. Plaster of Paris does this, by changing its lime for ammonia. Now let us go into the reason of this a little, and see if we can understand it. Very slowly, and supposing moisture present, the oil of vitriol of the plaster quits its lime and unites to ammonia, and so changes the volatile into a fixed salt. Now this is a change that has been of late much insisted on, and the practice recommended of strewing the stable and barn cellars, and even the privies with plaster, to save the ammonia which escapes in these places. But it is doubtful whether the saving is as great as is usually supposed, for the ammonia arising from the urine is caustic, and flies off as caustic ammonia that has no effect upon plaster. Copperas, alum, common salt, potashes, and woodashes, all act to fix the volatile ammonia, and have all been recommended for that purpose. But it is easily seen, that in employing some of these substances, it is to buy ammonia almost at apothecary's price.—These practices will be followed, therefore, only by those who place the crop, and its value upon ammonia. This is a limited and narrow view. The true and farmer like, as well as the most scientific and natural mode of preserving the ammonia of urine, is to fill your yards and barn cellars with plenty of mould; by which I mean truly decaying and decayed vegetable matter, as well as loam. There is no mode more effectual, no mode more economical.

Consider, now, for a moment how mould formed and forming and ammonia act. Have I not said again and again ammonia hastens decay? makes mould more easily dissolved, and cooks the food of plants? That action having occurred during its progress, acids were formed. The ammonia unites with them loses its burning properties and becomes fixed. The acids having been satisfied, the ammonia is actually imbibed and retained by mould.

It does not drink it in like a sponge, but the mould forms a peculiar chemical compound with ammonia. This doculiar compound, while it does not render the mould as easily dissolved matter, yet it holds ammonia by so feeble a force, that it easily yields to the power of growing plants. It gives up the stored ammonia at the place where, and the time when, it is most wanting. If you remember these actions of mould and ammonia, it will be as plain as day, that what we have said of the inexpediency and expense of vats and tanks, and urine carts, must not only be true, but is confirmed by the experience of a host of hard-working, thinking, practical men.—In connexion with urine, the dung of birds, for instance domestic fowls of all kinds, and pigeons, may be here mentioned. These animals discharge their solids and what we may term their liquids together. Their urea comes out combined with or forming part of their dung. Now reflecting a moment on the nature of their food, strongly nitrogenous, being seeds, grains, &c. or animals, bugs, grasshoppers, &c., we can understand why their droppings are peculiarly rich in ammonia and salts. The strongest of all manures is found in the droppings of the poultry yard. But since these form but a small portion of the farmer's stock, and are never regarded as a principle source of manure, their further consideration may be omitted. It may perhaps be here added, that as from their nature bird droppings run quickly down, they are more allied to sheep-dung than other manures. Their mould not being great, droppings of poultry require to be mixed with decayed vegetable matter or loam. To this class belongs the manure brought from the Pacific Ocean, under the name of Guano, a Spanish word for excrement. New England farmers can find cheaper sources of salts, to which the main value of guano is owing, and therefore reader, we shall detain you no longer on this point.

A GOOD COMPOST FOR SANDY LAND.—Take 10 loads of stable or barn-yard manure, 5 loads of clay, 10 bushels of ashes, and 20 bushels of lime, mix the whole well together, let it remain in pile a few days, then turn it over, when it will be fit to apply to the land. The above quantity will make a better dressing for an acre of land than twenty, or even twenty-five loads of stable or barn-yard manure alone, and will last longer. Let any one who may doubt, try it, and they will be convinced of the truth of what we say.—*Am. Farmer.*

PLOUGHING FOR CORN.—The American says: In ploughing up corn and oats ground, the farmer should neither spare his team or his plough, as the deeper he goes the better prepared will his soil be to sustain the crop sown upon it. It is a fact that cannot be disputed, that corn planted upon ground deeply ploughed, always stands draught better, looks green and healthy longer, and nine times out of ten will yield more fodder and more grain, than that which is planted in shallow ploughed ground. There is no mystery as to the reason; it is obvious as that two and two makes four. The roots penetrate beyond the depth at which, by evaporation, the earth becomes deprived of its moisture, and there find in store for them that necessary ingredient to healthful vegetation, and thus escape from the evil of being parched up for the want of water.