

We may here mention that those farmers in the vicinity of this City, and others who live near large livery stables, would do well to furnish the proprietors of such stables with powdered plaister of Paris; a mutual advantage would be received. The owner of the stable would purify his stable, and the farmer would obtain an excellent manure.

The *urea* and uric acid of urine contain more nitrogen than any other substance generated by the living organism. We thus see the value of urine as a source of nitrogen to plants, and we can recognize the importance of nitrogen in the constitution of plants, when we take into consideration that "*the whole process of nutrition in an animal consists in the progressive extraction of all the nitrogen from the food;*" wherefore, the quantity of nitrogen found in the excrements must always be less than that found in the food, as the larger quantity has gone into the organism of the animal for its nourishment.

With respect to the quantity of nitrogen contained in excrements, 100 parts of the urine of a healthy man are equal to 1300 parts of fresh horse dung, and 600 parts of those of a cow. Hence, then, we see the value of it for agricultural purposes; and this value is appreciated in Flanders and China, and in the latter country laws are enacted to prevent the waste of human excrements, as no other kind of manure is used for corn fields. The Chinese are admirable gardeners and trainers of plants. They surpass the agriculturists of Europe, and their agriculture is the most perfect in the world. They attach but little value to the excrements of animals, compared with night soil. They use the cakes that remain after the expression of their vegetable oils; horns and hoofs reduced to powder; soot, ashes, contents of sewers, old mortar, all sorts of hair, especially that obtained from the shavings of some hundred millions of heads in barbers' shops; they apply

the manure to the plant rather than to the soil, and steep their seeds in *liquid manure* until they swell, and germination begins to appear, which experience has proved will hasten the growth of plants, and defend them against insects in the ground. The Chinese farmer applies *liquid manure* to the roots of plants and fruit trees, and prefers the human urine to all other manures.

The nitrogen contained in the liquid and solid excrements of a man during a year, would be sufficient to yield the nitrogen of 800 lbs. of wheat, rye, oats, or of 900 lbs. of barley. "This is more than is necessary to add to an acre of ground, in order to obtain, with the assistance of the nitrogen absorbed from the atmosphere the richest possible crop every year." By using night soil, and adopting the alternation or rotation of crops, and "*by using at the same time bones, and the lixiviated ashes of wood, the excrements of animals might be completely dispensed with.*" In China, weeds are not to be found in their corn fields, but we sow an abundant crop of them with the manures we employ.

Pasture lands, on large farms, replace the annual expenditure of nitrogen on them.

"It must be evident," says Leibig, "that the greatest value should be attached to the liquid excrements of man and animals when a manure is desired which shall supply nitrogen to the soil, the greatest part of a superabundant crop, or in other words, the increase of growth, which is in our power, can be obtained exclusively by their means."

"When it is considered that with every pound of ammonia that evaporates, a loss of 60 lbs. of corn is sustained, and that with every pound of urine, a pound of wheat might be produced, the indifference with which these liquid excrements are regarded is quite incomprehensible.

"In most places, only the solid excrements, impregnated with the liquid,