

activity. Of twenty-five Dahlia roots which a lady believed had been frozen when left at a waggon office, and which she unadvisedly plunged into tepid water, more than half decayed before the time for planting in the spring arrived. Twenty-five roots, which arrived in the same box, and were stored immediately in dry sand and in a cold shed, every one vegetated vigorously when planted out. In connexion with this subject, it is worthy of remark, that those who desire to have Dutch bulbs flowering before the year closes, should have procured them last month, and begun forcing them in the first week of the present.

In the forcing department, the gardener may be reminded that this is found by general experience the best month for constructing *Mushroom-beds*.

In the kitchen-garden, the cultivation of the *Water Cress* in a moist shady border, is worthy of being adopted. This is the month for planting slips of it, the only cultivation necessary being to dig the earth fine, to draw a slight trench with a hoe, to fill this with water until it becomes a mud, to cover it about an inch deep with drift sand, and then to stick in the slips about six inches apart, watering them until established. The sand keeps the plants clean. They will be ready for gathering from in a very few weeks, and the shoots should be *invariably cut* and not picked. They are not so mild flavoured as those grown in water, but then they are free from aquatic insects, &c.

SAND AS AN IMPROVER OF SOIL.

Sand, as every body knows, is an aggregation of loose, small grains. Generally it is believed that the grains consist merely of quartz or silica, but by closer examination it is found that many grains of felspar, mica, iron ore, silicates of potash, soda, and lime, oxide of iron, &c. are amongst the main mass. If therefore, sand is brought on fields, we must not believe that it merely improves them mechanically; on the contrary, we may assume that it furnishes them with sources of vegetable nutriment. Because, although the mineral substances of which it is composed are not soluble in water, still they are decomposed by the humic acid, and gradually changed into food for plants. For marshy or very humic soils, even the quartz is a manure, as it supplies them with silica, in which they are mostly deficient.

As the value of sand, as a manuring substance, consists in the quantity of those of its mineral component parts which are fit for becoming the food of plants, obviously that is to be chosen which is richest in lime, soda, potash, and magnesia silicates; this, however, can be only ascertained by chemical analysis. Sand, moreover, used as manure, ought to be very fine, as it will then present to the humic and carbonic acids which have to decompose its silicates, a greater scope for contact; a clayey soil, nevertheless, which has to be loosened and improved by sand, requires one of coarse grains. Although sand, generally speaking, is only used for the improvement of clayey or very humic soils, it may be also useful for chalky soils, as these are always deficient in that quantity of silica which is required by the grain-bearing plants.

On stiff clayey soils, which require an improved texture, a sand is to be used which contains many grains of lime, as those will loosen the soil even better than grains of quartz. On the sea-coast that sort of sand, therefore, which is thrown out by the waves, is used with much success for the improving of clayey fields, as it always contains fragments of shells, rich in carbonate of lime. It is generally first used as litter, and then carried (mixed with excrements) to the clayey

fields, which, if the process is often repeated, will not only be improved physically, but also become very fertile. The coarse sand may be spread over a clayey field to the thickness of half an inch, at the time when it is used as pasture, as in this case it will not only be trodden in by the cattle, but will work downward into the crevices which are to be found in a dried up clayey soil—an operation which will be also assisted by the rain-water. The first subsequent plowing is done very shallow, and the first crop should be oats. After the lapse of a few years or when the field is used as a pasture, sand is again spread to the above thickness, which, in fact is repeated until the clayey soil is changed into a loamy one. The same process is resorted to if sand is used for the improving of moors, peaty and marshy soils, but here the thickness of the sand may be 1 to 1-2 inch. It will improve the moor, and bring the organic matters to speedier decomposition.

On fields rich in humus, where rye is grown, sand a quarter or half an inch thick may also be strewn to great advantage in winter, on the frozen soil; it will also tend to prevent the freezing of the crops during spring. As before stated, the sand may be used in the stable as litter, before applying it.

When sand is used in large quantities, its effects are lasting, unless on marshy soils it sinks so deep as to be beyond the reach of the roots; in this case it will even act no longer physically; so that the spreading of it must be repeated. Clayey and chalky soils, on the other hand, will be constantly improved by large quantities of sand, as the water cannot then carry off any of it.—*Prof. Sprengel*.

COMPOUND LEVER POWER APPLIED TO THRASHING MACHINES.—We perceived in the outside yard of the Show ground at Southampton, a very ingenious and powerful instrument, capable of being applied to thrashing machines, or other laborious work now performed by horses, and by which two men could do the work of a full-sized thrashing machine. This invention attracted the attention and admiration of great numbers, it being of a simple construction and most efficient in its application. We have no doubt but it will be of essential benefit to the agriculturist, and will yet, in a great measure, supersede horse-power. Its speed can be regulated from 8 to 1,200 revolutions in a minute, and it can instantly be applied to any machine, apple mill, malt mill, chaff-cutter, &c., &c., it being portable and on wheels. It was represented to us as being capable of thrashing effectually from 10 to 12 bushels of wheat (or thirty stetches) within the hour. Lieutenant Vibart the inventor, has got a patent for the invention.

HYDROPHOBIA CURED BY VINEGAR.—At Udina, in Friule, a poor man suffering under the agonizing torture of hydrophobia, was cured with draughts of vinegar, given 'in by mistake, instead of another potion. A physician, at Padua, got intelligence of this event, and tried the same remedy upon a patient at the hospital, administering a pound of vinegar in the morning, another at noon, and a third at sunset, and the man was speedily and perfectly cured.

Liberty is not a paper that we see stuck up at the corner of a street. It is a living power which we feel within us and around us, the protecting genius of the domestic hearth, the guarantee of social rights.—*De la Mennais*.

Not to grow better is sure to end in growing worse. Trust not the man who promises with an oath. Distrust all who love you extremely upon a very slight acquaintance, and without any visible reason.