

arrangement for effecting similar objects he had recently been invited to inspect at Prince Albert's Farm at Osborne.

**Steam Cultivation.**—Mr. Murphy, of Cork, communicated to the Council a statement of peculiarities in the construction of his single and double-action spade-cylinder machine for cutting, turning up, and pulverising the soil ten inches deep by the draught of a single horse.

**Glass Milk-Pans.**—Professor H. von Blucher, of Wasdow, near Rostock (on application to him through the intervention of M. Kreept, the Mecklenburg Consul General, in London, and at the suggestion of Mr. George Raymond Barker), favored the Council with the following information connected with the original black-glass milk-pans of the Pine Forests of North Germany, recommended to the Society by its late distinguished foreign member, Captain Stanley Carr, whose recent loss the members have deeply to regret:—

"There are only few manufactories of glass in Mecklenburg; in regard to the black-glass milk-pans, the best are fabricated by Mr. Cleve at Karow, by Frau in Mecklenburg, and the surest and cheapest way to procure them would be to apply to the merchant, Joh. Christopher Voigt at Rostock, who deals in that article has at present about 3,000 in store, and will send them direct from Rostock to London. The price for 100 pieces (extra embellage) is 27 Prussian dollars; the weight of each is 6-7 lbs., (Hamburg), and the diameter about 17 inches (English)."

Colonel Challoner referred to the great improvement he had effected in his dairy by raising it, as Captain Stanley Carr had recommended, for the purpose of promoting ventilation. This alteration of from four to six feet greater height had proved of incalculable value; it had cost him £25 to effect it; but he would not for four times that sum restore his dairy to its former proportions.

**Improvements in Horse Breeding.**—Mr. Spooner, of Southampton, recommended the Council to take measures with the Government, as well as with the local societies of the country, for improving the breed of horses for cavalry and artillery purposes, with the view of obtaining animals possessing a combination of activity and strength in the highest degree. He thought this object would be obtained by encouraging the breeding of good saddle horses from the best brood mares capable of carrying sixteen stones, by the best stallions, well but not thorough-bred, capable of carrying a similar weight. He thought that such mares abounded throughout the country, although they were at present employed for draught and other laborious purposes; he considered that the class of male horses to be used was the one now too frequently castrated—

namely, a three part bred hunter, capable of carrying a heavy weight up to the fleetest hounds; such an animal readily commands

£200 or £300, when his excellencies are known, and it may in fact be regarded as the most noble and valuable of the horse tribe.

Mr. Spooner had little doubt that the system would, in a few years, result in the degeneration of the English breed of saddle horses. Sir Matthew Ridley referred to the Government establishment in foreign countries of *haras*, for the express purpose of effecting improvements in the breed of horses. In the north of England good size, and absence of white color, were points to which much attention was paid. Reference was made to the extensive agency at work in this country for the purchase of the best English horses for exportation to the continent, and to the constant advocacy, by that distinguished veteran, Sir Harry Smith, of improvements in our breed of horses for military purposes, by a restoration of the best qualities of the old English hunter.

**Deodara Pine.**—Sir Matthew Ridley referred to the secure manner in which Deodara Pine seeds had reached him from India, and had retained all their freshness and vitality by being enclosed in thin oiled canvas; and to the success with which trees of that Pine, ten years old, had been transplanted from Northumberland to Warwickshire, where they were at that time growing most luxuriantly.

**Hamster.**—Dr. Calvert stated that rat-like animals of a large size, supposed to bear some affinity to the hamster, were effecting much damage in Yorkshire and also in Hertfordshire.

Mr. Chadwick, C. B., presented the last report of the Board of Health on sanitary measures connected with agricultural operations.

#### MANAGEMENT OF MANURES.

"I should like to have you tell me what is the advantage of hauling a great lot of common soil into a barn cellar, and then hauling it out again into the field; Why is it not just as well to plow in the green manure and let it mix in the ground?"

This question, proposed by a working man, desirous of a rational reply, suggested to me the idea of saying something on the subject of Composting.

By supplying our yards and cellars with common soil in proper quantities, we retain the liquid portion of the manure, which must otherwise be mostly lost, and we prevent evaporation of the volatile elements which exist in all manure. In the case of stable manure we also prevent loss by heating, and firefanging. Now, it does not require a vast addition of soil to effect all these objects, and as carting this material is very expensive, true economy tells us to reflect upon the objects in view, and stop when we have attained.

If you carry out at ten loads, the same elements of fertility that you have heretofore carried out at twenty, you have gained by saving it, three or four dollars worth of

labor, which in the spring of the year is worth minding. *Quantity* is not always *value*. More than eighty pounds of every hundred of barnyard manure, hauled into the field, are nothing more nor less than *water*, just such as the clouds will give us in abundance, about planting time. Let the farmer keep this in mind as one guiding principle, that manure is valuable not for its bulk, or *weight*, but for its fertilizing properties, which make but a small part of either.

Again, we frequently see farmers in a bright windy April day, expending much labour in composting in their fields, shovelling over and over again their manure heaps, often mixing *nothing* with them, and oftener road-side sand or worthless soil. We will speak of the *gain* presently. The *loss* by the operation is manifest to more senses than one. It was stated in a public lecture, by a learned chemist, that about one-fifth of the value of a heap of stable manure would escape by evaporation in such a day as I have named, by a single shovelling over and shaking up in the usual way.

Let the learner bear in mind, as another guiding principle, that one of the most valuable constituents of the manure heap—*ammonia*, is also one of the most volatile. It has little more than half the weight of common air. It is the same compound that is used by the ladies as *smelling salts*, and the same which always suffocates you as it does also your horse, in the stall of your stables. Whenever your sense of smelling gives warning, then you may know that the air is carrying off your manure heap, though invincibly, often as rapidly as an Irishman could do it with a wheel barrow.

For hoed crops, the old way of plowing in the manure as it comes from the yard, is often the true economy. Nothing is then lost by evaporation, and no labor is expended in repeatedly handling it over.

But for gardens, for top-dressing for grass, and for harrowing in for any purpose, coarse manure cannot well be used. Spread upon the surface, its whole value is almost lost, and the harrow will not cover it. It must be composted for convenience and economy. This is best done in the cellar, and if done elsewhere a still, moist day should be chosen for the work.

Thus far I have spoken only of composting with common earth. Few farms are so poor as not to afford something better. If the compost is for sandy land *clay loam* or clay pulverized by frost, may often be used to advantage. It is desirable to save ammonia, which has been said is a very hard creature to keep. A good cork is necessary to confine it in a bottle.—Now it happens that *clay* has the power to attract and retain ammonia, greater than any other kind of soil, so that a double advantage may be gained in some cases by its use, in large quantities. To fine sandy lands I have applied twenty cart loads of clay to the acre at once, with advantage. Composting is