

There are many kinds of composition that are good to resist water, and preserve leather, and the proportions of the above may be varied. Tar and tallow will answer well alone; linseed oil is used as an ingredient in composition. Neat's foot oil is excellent and preserves the leather soft.—Castor oil has been highly recommended for this purpose.

DISINFECTION OF MANURE.

It is long since we adverted to the *Disinfection of Manure*, that most important operation, which alone will ever induce people in this country to employ habitually the fertilising materials at their command, or prevent their throwing away money in the pursuit of substitutes uncertain, dear, and comparatively inefficient. It is indispensable to find very cheap methods of destroying the offensiveness of decaying matter, or no stop will ever be but to the enormous indirect waste of national wealth which is now going on.

Among the substances which have from time to time been proposed for effecting this end, some have been dear, like chloride of lime, charcoal, &c., others dangerous to use, and insufficient, like sulphuric acid; some slow on their action, like gypsum; others too bulky, like peat earth; and others troublesome to employ, as is the case with muriate of lime. Each of these reasons has proved a bar to the employment of such disinfecting agent. But among those which have been occasionally mentioned is one that seems more free than any others from practical objections, and that is sulphate of iron, or what is called in the shops copperas, or green vitriol.

In the year 1842, a Mr. Schattenmann published no account of his manner of employing this substance; and we mentioned his method at p. 191 of our volume for that year. As he is a practical man, and his employment of the salt was on a large scale as a farmer, his observations were entitled to the greater attention. Nevertheless, we do not find that his advice has much been followed; and therefore we beg to invite attention to the following additional evidence produced by Mr. Schattenmann in favour of the use of sulphate of iron:

"The offensive exhalations produce by putrefying matters arise," says this excellent observer, principally from the flying off of carbonate of ammonia and sulphuretted hydrogen gas: but if a solution of sulphate of iron is thrown among such matters, a double decomposition immediately takes place; the sulphuric acid of the sulphate of iron combines with the ammonia, and converts it into a fixed salt; the iron combines with the sulphur, and forms a sulphate of iron. The unpleasant smell of ammoniacal vapour and of sulphuretted hydrogen disappears immediately, and the putrefying matter that is acted on retains nothing more than a feeble odour, which is not in the slightest degree disagreeable."

Now any one may easily verify this fact by taking smelling salts, dissolving them in water, and throwing in some green vitriol; when the fluid will become black in consequence of the separation of the black oxide of iron from the sulphuric acid and the pungent smell will go off in consequence of the combination of the sulphuric and ammonia. In like manner if some green vitriol be dissolved in water and a steam of sulphuretted hydrogen gas be sent through it the fluid will become black with great rapidity, in consequence of the formation of sulphate of iron by the decomposition of the gas; and the disgusting smell will cease to be perceived.

No doubt, then of the accuracy of Mr. Schattenmann's statement can be entertained, and thus a very cheap and rapid means of destroying foul smells is at once obtained; not indeed as quickly as by the use of chloride of lime, but an infinitely less expense. By this means the most offensive matters may be purified, and putrid substances of the worst description removed without even so much annoyance as arises from common stable manure.

No fear need be entertained of the sulphate of iron, because of its iron, injuring the quality of the manure; experience shows what theory indicates, that it produces no such effect, but that it secures all the advantage anticipated from it without a single drawback.

We are tempted to introduce this subject into the Horticultural part of our Paper, because in fact, much as it interests everybody, it concerns more especially gardeners, who are either obliged to buy their manure, or if it is furnished from a farm, are involved in incessant disputes with the farmings bailiff on account of it. We advise them to think well upon this article, to disinfect all those offensive matters which are now wasted and to show the farming bailiff that with hot-water on one side, and sulphate of iron on the other, they can snap their fingers at the farm and all the assistance that is so grudgingly bestowed by it.—*Gardiner's Chronicle*.

KEEP YOUR PIGS WARM.—Pigs cannot be kept through our long, cold winters with advantage, unless they are warm, dry, and comfortable. If they are exposed to cold, wet and filth, they must inevitably consume a great deal of food just to keep them alive, and as they will not gain for such unfavorable circumstances, there is a loss of all the food they consume, unless we reckon the advantage of having a pound of live flesh in the spring for one in the fall, and this is by no means a profit worthy of much consideration, as the prices usually are in the market.

The same food that will barely winter a pig with poor management, will keep him in a thriving condition in a good warm shelter, and the difference in the two modes of management is a mere trifle, while the difference in the result is important. The same difference that there is in spring between a large sleek growing pig, and a poor, stunted, wretched looking creature that is hardly fit for a foundation to build upon, as he will have become stationary as to growth, and some time will be required to get him started again in the progress of improvement.

Pigs should have a bed of straw or litter to sleep on that is not only warm, but free from filth, and in such comfortable quarters they will spend much of their time in quiet and repose, and thrive well on a moderate portion of food, if it be well cooked and fed to them warm. Besides their usual food they should have condiments to keep them in a healthy state, such as charcoal, rotten wood, pure live earth, if they cannot conveniently root down to it, and now and then a small dose of brimstone and antimony.

If pigs are generally kept on cooked food, they should occasionally have a few raw potatoes and other roots, apples, &c., for a change. During winter their beds should be replenished whenever a deficiency occurs from a waste or other cause, as such frail materials soon wear out and mingle with the dust. If pigs be confined to a pen, the manure should be removed, else a large accumulation will injure the health of the animals from the filth that