

into what is called a peroxide, in which state it is harmless to vegetation.

The advantages of paring and burning are several; it destroys the seeds of weeds, and much of the foul growth with which the land may be filled; it also destroys many insects and their eggs, and furnishes in the ashes and calcined earth, a powerful manure, impregnated with alkaline salts and carbonaceous matter, which is found highly beneficial in correcting the tenacity of clays and converting them into friable loams.—*Alb. Cult.*

A LECTURE ON THE APPLICATION OF CHEMISTRY TO THE DETAILS OF PRACTICAL FARMING.

BY ALBERT JAMES DERNAYS.

This clever lecture, which was, at the request of Sir Oswald Mosley, Bart., delivered at the Burton-on-Trent Farmers' Club in April last, has been, at the request of several of the friends of agriculture, published in a cheap form. There can be no doubt but the careful perusal of this lecture will prove of material service to establishing an understanding to the right principles of agriculture.

The importance and advantages of the arrangement and compilation of the manure heap are too well known to require any observation from us; but we cannot lay by this practical work without giving the author's directions for preparing the farm-yard heap:—

"It should be a rule to heap it on as small a space and as compact as possible. The ground on which it is placed should consist of a stiff clay, or be bricked over. It should commence about half a foot below the surrounding ground, and be situated so as to cause all the water from the manure to run into the tank. The conduit leading to the latter should be well covered in, so as not to allow spring-water or rain-water to collect in it. A layer of gypsum is now to be spread on the flooring, and the heap is to be commenced by covering the whole bottom, with the exception of about half a foot on each side. On every foot height of manure a layer of gypsum is to be spread, sufficiently thick to appear white. When the heap is completed, or before, the contents of the tanks are to be poured on by degrees, in quantity sufficient to moisten the heap well, but so that little will run back into the tanks. By these means the following advantages will be obtained: Firstly, the cartage of the urine will be rendered unnecessary, and some labour and expense saved; secondly, the gypsum of the farm-yard heap will be dissolved; and thirdly, by the addition and evaporation of the water of the urine, the decay of the manure will be hastened. If the method recommended of strewing the stable-floorings with gypsum be followed out, of course but a small quantity of it will be necessary; a thin layer may then be strewn on every two feet high of the heap; and when completed, the top and sides should be sprinkled with it. The heap itself should not be higher than six feet, for many reasons.

SAVING SEEDS.

It has often occurred to me that sufficient care has not been exercised in saving seed of vegetables from the finest part of the crop. If we breed live stock, of whatever kind, we invariably select the parents from the best of our flock or stud. So with regard to flowers: no one would sow seed from inferior flowers, but would select from the best specimens; and it is by following up this system that great improvements have been made. Thinking the same effects would accrue from a more careful selection of culinary seeds, and that a much greater degree of productiveness might be attained, about three years ago I began an experiment with long-pod beans. I carefully selected the finest and fullest pods for seed, taking none with fewer than five beans in each. Next year I had a good sprinkling of pods with six seeds in each; these were saved for seed. Next year I had many six-seeded pods, and some with seven. Following up the same plan, I find this season many more six and seven-

seeded pods, than of a less number, and some with eight seeds! There are still a few plants which produce five-seeded pods, and it is worthy of remark, that the five-seeded plants have seldom a six-seeded pod upon them, but all fives; on the contrary, a six-seeded plant has generally all the pods bearing six beans or more.

As the seed-saving season is now coming on, perhaps these hints may induce others to adopt the plan. If the same course were adopted with our grain crops, I have no doubt more productive varieties might be procured.—*Correspondence of Gardener's Chronicle.*

THE ALPACA.

It may be satisfactory to persons interested in the naturalization of this useful animal in the British Isles, to learn that some of the latest experiments have been singularly successful, fully establishing the fact that upon our soil the fleece improves in quality and in weight. G. A. Stirling, Esq., of Craigbarnet Place (Lennoxtown,) near Glasgow, lately sent 15 lbs. to Yorkshire, the residue of two fleeces clipped last year, the quality of which, although not finer than the best sorts imported, was, nevertheless, more glossy, and of one uniform jet colour. This small parcel was since spun by Mr. James Whitley, of Morton Mills, and manufactured by Gregory Brothers, of Shelf, into a web of thirty yards, mixed with ruby silk, the figure, rose, shamrock, and thistle, (Queen's pattern,) on alternate stripes of black and ruby. This is the second instance of home-grown alpaca being manufactured in this country, the first having been the Queen's, in last December. About two months ago Sir Robert Heron, M.P., of Stubton, near Grantham, Lincolnshire, sent down a black fleece, just shorn on his own estate, with the view of ascertaining its mercantile value, which, by professional men, was pronounced the most splendid they had ever seen. It weighed 17 lbs., a most extraordinary weight, the fleece in Peru seldom or never exceeding 10 lbs. This remarkable specimen of home-grown was sold to Messrs. Gregory Brothers at 2s. per lb. At the same time Sir Robert forwarded to the manufacturers a *machurga* fleece, white, and weighing 8 lbs., clipped from the hybrid, obtained by crossing the llama with the alpaca. This animal was imported from Peru, and purchased at Liverpool in the winter of 1842, and may justly be considered a curiosity, as being a rare specimen among us. In Peru this mixture is frequent, but, like the mule, the offspring is barren, and never used unless as a beast of burden. The fleece in question possesses some of the properties of the alpaca, such as its length, and a partial glossiness, mixed with the harsh hair and kemp of the llama, which, of course, is not a wool-bearing animal. The difference between this and the alpaca fleece is so great, that it is difficult to say what mercantile value can be set upon it. Samples of the three fleeces above mentioned, together with patterns of the Queen's textures, including her favourite plaid, have been deposited at the Polytechnic.

LIQUID MANURE.

The greatest care should be taken to make the most of this valuable article. The channel which is behind the cows, in every well made cow house, may be filled daily, or morning and evening, with bog earth, or earth of some kind, which will absorb the fluid, and thereby be converted into excellent manure; or a tank, either a hog-head or a cistern built of brick and cemented, may be placed where the steepage from the cattle and horses can be conducted by drains; the tank should be covered, and have a pump in it, by means of which the fluid can be