Sewage upon Sand.

The power of sewage to produce a crop of succulent growth with a very minimum, if any, of assistance from the soil itself, has indeed been amply illustrated in an experiment of sufficient extent, not far from Loop Farm, Barking. One of the features of the plan of dealing with North London sewage, for which Parliamentary powers were originally obtained, was the reclamation of a large portion of the many square miles of sand which the tide lays bare by Foulness, at the mouth of the Thames; and there fertilizing some 8,000 or 10,000 acres by sewage irrigation. Although similar work has been actually done with the best results near Leith, with the water of the Edinburgh "Foul Burn," it was thought desirable to test the fitness of the Maplin sand from Foulness for the use of the sewage on it. About 3,000 cubic yards of the sand were accordingly barged up to the sewage outfall below Barking, and there spread some thirty inches deep over an acre of abandoned contractor's yard, which was levelled for the purpose. This acre of sand was smoothed with a slope of about 1 in 120, and sown with Italian Rye-grass in March, 1866. Three or four cuttings of grass were taken from it during that year, one of them close on twenty tons per acre, and the others at intervals of four or five weeks, varying from eight to twelve tons per acre. The plant received frequent abundant floodings with the water from the sewer alongside of it. I am unable to say, however, how much exactly either of sewage it received or of grass it produced. But it is certain that very heavy crops of grass were produced by the use of sewage alone upon this sheer sea-sand, which could have contributed hardly anything to the growth of the crop. Smaller plots of the sand were planted with mangold-wurzel, celery, and carrots, and yielded satisfactorily. —*F. C. Morton, in a Report to the Metropolis Sewage Company.*

Weighing Hay.—Farmers frequently have occasion to weigh small lots of hay, and few have the conveniences for doing it. To weigh off a ton of hay by tieing up one or two hundred pounds at a time, with a cord, is no small job. One of our American exchanges describes a very simple contrivance, which saves the tieing, at least, and is very cheap and easy to make. It consists of an upright standard, five or six feet in length, of 4 x 4 scantling; a round pole will do as well. Near the bottom of this standard, two two-inch holes are bored at right angles to each other. Round, straight poles are slipped through these holes, projecting some three or four feet each side of the standard. On the ends of these poles are laid and fastened light narrow strips of boards or poles, forming a square, the sides of which are equally distant from the standard. A clevis is attached to the top end of the standard in which to hook the steelyard. The usual lever arrangement is used to raise the hay, which is simply pitched on to the platform. When not in use, the cross poles can be slipped out, and the whole stored in a small place. place.

S. N. Wherry, of Pennsylvania, gives this account in the *Practical Farmer*, of three good crops:—"One field, ten and one-third acres (strict), made 909 bushels (by weight) of shelled corn—88 to the acre. Eighteen acres of wheat yielded 556 bushels (by weight) or 31 bushels to the acre. Twenty acres oats gave 1,410 bushels (thirty pounds to the bushel) or 70 bushels to the acre. The ledger for 1869 shows a very favourable balance, notwithstanding that wheat cost considerably more than it brought in market."

Exterminating Sorrel.—A writer in the *Country Gentleman* recommends the following method of exterminating sorrel: -"In my own experience, a single field previously growing scrub pines and sedge grass, was treated only with bones and guano. The ground was enriched, the corn grew finely, but the sorrel grew with even greater luxuriance. Though there had been little or no appearance of sorrel in the primitive sod, and the ground was nicely clean when the corn was planted, such was the growth of sorrel under the course of this culture and stimulus that in a few weeks it would have covered the ground with a general sod. Its destruction by harrow and hoe was impracticable. With an ordinary rotation, conducted with the greatest care, I would call it impossible ever to have extirpated that growth of sorrel without a *chemical* change in the soil. All other parts of my farm had already been freed from sorrel through the liberal use of lime. It was accordingly applied to this field. The sorrel directly disappeared from it also, except in trifling patches not reached by the lime. I know no other way of subduing sorrel, than by the use of lime. I assume that the alkali neutralizes the acidity of the soil in such cases; it certainly appears to bring about a condition uncongenial to the growth of sorrel."

Effect of Forests on Health.—It seems to be generally understood among scientific observers, that forests, and even a few rows of trees, often have great effect in checking miasmatic vapours. It has been observed that a screen of trees, in certain localities in Italy, protected the inhabitants from fevers which were prevalent upon the other side of them. Certain commissioners in Tuscany advised the planting of three or four rows of white poplars to intercept the currents of air from malarious localities. Lieut. Maury believed that a few rows of sunflowers planted between the Observatory at Washington and the Potomac marshes, had saved the inmates of the Observatory from the intermittent fevers to which they had been formerly liable, and large plantations of sunflowers have been planted in alluvial soils in Italy with favourable results in preventing the spread of noxious exhalations from the marshes. It is supposed that the plants or trees not only act mechanically to check the unhealthful currents, but also chemically to render the noxious effluvia harmless by decomposing it.

Stock Department.

Cross-breeding Cattle.

It is astonishing how many inferior cattle continue to be raised in the country, and how little foresight and knowledge the generality of farmers possess on the subject of stock-breeding. Many are the farmers whose entire stock of young cattle would not sell when three years old for half the value of the food they have consumed in that time. Of this fact many have now become sensible, and have sold off every passably good animal on their farms, even to their cows, the only part of their stock that could be made available as a basis on which to commence future operations with a view to improvement.

Good cattle are now high in price. A good cow, that has been well fed and milks fairly, will command anything in reason. So will young heifers with a cross of short-horn blood in them. But this very circumstance does not seem to convince farmers that their best policy is to hold on to the good they have got, and endeavour to make it still better by a further use of thoroughbred bulls. How many are there among them who, to obtain grade heifers, worth from $10 to $20 more than their dams, will subscribe liberal amounts to their agricultural society towards the buying and keeping of a first-class short-horn bull, or pay an enterprising neighbour, who purchases and keeps one at great cost, the moderate sum of $5 for each cow put to that bull?

For all practical purposes of the dairy or the butcher, it will be found that cross-bred cattle can be more profitably raised by farmers than the thoroughbreds. But it is necessary first to have cows of good form, and propensity to take on flesh kindly, which is indicated by moderate size, compactness and levelness of form, a straight broad back and a thin tail, and soft skin well covered with fine hair; then we want good milking quality indicated by a broad forehead, small muzzle, bright and kindly expression, udders full and large yet not fleshy, with the milk veins well developed, and thighs somewhat wide apart; and lastly, we must have good constitutions, which also insure early maturity, indicated by broad deep chests, and ribs well rounded out behind the shoulder. In selecting a bull, it must be remembered that what is most to be aimed at in breeding upwards from ordinary stock is to stamp the characteristics of the breed from which the male is selected upon his progeny, and that the further back his pedigree can be traced, provided it can be depended upon, and traced through animals successively bred through one strain, or by careful and reliable breeders, the greater his value, and the more likely he is to bring progeny of a high character of excellence, even though he may be himself deficient in some points.