

applied even moderately and with judgment. He had observed in the autumn of 1845 a wheat crop on some land warped from the Humber, at Pattingham, in Yorkshire, the soil of which was quite white on the surface with crystallised salt, the result of powerful evaporation. The crop might average perhaps from 20 to 24 bushels per acre. This was the first crop of wheat taken off the reclaimed land after Rape allowed to seed, which is used in these salt crop districts as the precursor of wheat, and is considered to take more salt out of the soil, and to fit it more quickly for wheat than any other plant. These crops of Rape are frequently prodigious; salt, therefore, in such excess as actually to lie crystallised on the surface, is not injurious to Rape, and may possibly be very advantageously applied as a band tillage for Rape in soils which do not contain it. On first draining these warp lands from 4 to 5 feet deep, the water, after rain, issues so strong of salt as nearly to float an egg, and for years afterwards the water of drainage tastes brackish. That crops of all kinds—of wheat particularly—are vastly increased by draining, he had occasion to know from the effects produced on Mr. W. Marshall's estate at Enholmes, Pattingham; but on the undrained lands, and therefore on soils not deprived of their salt by drainage, 5 quarters of wheat per acre, without the application of any manure, were a very common produce on this remarkable soil. The common earth-worm established itself in great numbers after drainage, but he had never observed any grubs or wireworm in those soils.

Sir ROBT. PEEL having proposed the health of the Dean of Westminster—

Dr. BUCKLAND, in returning thanks, addressed the company to the following effect:—At this late hour I will trespass upon your time—which has been so long and so profitably occupied in hearing the results of the application of scientific principles to practical agriculture,—no further than to express my conviction of the soundness of the principles which have been set forth by the three practical agriculturists who have laid before us the results of their scientific management of lands, which under ordinary treatment were sterile, but in their hands have been rapidly rendered prolific in an unusual degree. It would be waste of time to enter into proofs of what is now universally acknowledged, and has been exemplified by the great improvements immediately resulting from drainage in the farms cultivated by Mr. Woodward, Mr. Meech, and Mr. Huxtable, viz. that drainage is the foundation and first condition indispensable to the profitable cultivation of all lands that are naturally wet: for on such lands, without drainage, all applications of manure or attempts at improvement of any kind are vain. But the land once drained, is in fit condition to become the subject of any and all the profitable experiments we have with so

much pleasure and profit heard described by the individuals who have made them. The best test of the truth of the ideas founded on the inductions of science, is an appeal to practical results, such as have been detailed to us; it has been my good fortune to inspect on two occasions the farm and farm-yard management of Mr. Huxtable, and thereby to be able to bear testimony to the reality of the results he has enumerated in no exaggerated terms. The great point he has established in practice, and which all the experiments of scientific men have indicated to be the basis of practical agriculture, is this, that as it is the object of the cultivator to obtain from the earth those vegetable and animal productions which contain the elements of the food of man, so it is the object of the scientific farmer to apply to the earth, in the form of manure, the elements of the food of plants, in such kind and in such proportions as chemical analysis shows each kind of plant and each kind of grain respectively to require; and I believe that no living man has carried the combination of science with practice, as to these points, farther, or with more perfect success, than Mr. Huxtable. Dr. Lyon Hayfair has stated valuable results of chemical analysis, indicating the proportions of various kinds of nourishment in the seeds of plants we use for food; and has told us that scientific cookery has become the most recent addition to the subjects of the laboratory; and that whilst the farmer ought rather to study to supply flesh to the cook, than fallow to the chandler, the cook must also learn from the chemist the most efficient and most economical prescriptions for the preparation of that best result of agricultural experiments, viz., nutritious and wholesome and savoury food for man. I am happy that many of the experiments that have been quoted by Mr. Meech and Mr. Huxtable have been lately printed in fuller detail, in two cheap pamphlets, of inestimable value to all practical farmers; and I earnestly commend them to their perusal. I would also commend Liebig's last book, entitled "Researches on the Chemistry of Food," 1847.

The health of Sir Robert Peel having been proposed by Lord TALBOT, drunk with enthusiasm, and acknowledged in a brief but admirable speech, expressive of the strong interest taken by the Right Hon. Baronet in advancing the agriculture of his country and promoting the welfare of the farmer, notwithstanding what had been said to the contrary, the meeting separated, leaving a conviction on the minds of those who were present that it was one of the most interesting and important that has ever been held in England.

LIME AS MANURE.

Lime appears to have succeeded much better as manure in some regions of the country than in others. The eminent success which has attended its use in

many places, should induce a trial, at least throughout the country.

Two communications have appeared in the *Ohio Cultivator*, describing its very successful application, of which the following is the substance:—The first experiment was eight or nine years ago, with three acres of old, worn-out field, the soil clayey, with some loose sandstones. It was applied at the rate of 100 bushels per acre, after the land was ploughed, and before it was harrowed, for corn. The corn on the limed ground was nearly twice as heavy as on the rest. The same was true of the oats that followed the corn; and of the wheat after the oats; and of the clover after the wheat, where the heavy growth indicated to a foot where the lime terminated. A subsequent communication from the same writer states, that lime had been applied both with and without manure. "When we put on the lime, we always put on all the manure we make, either in the spring or in the fall—which is from 75 to 160 cart-loads. Lime itself will make the ground produce about 50 per cent.—lime and manure, 100 per cent.—when we put on 100 bushels of lime per acre, which we always aim to do."

SORREL.—The same correspondent states that a sandy field, or a hill of chestnut, poplar, and hickory timber, soon after it was cleared, failed to produce much grass, or anything else than horse sorrel. A hundred bushels of lime per acre were applied before sowing wheat, and clover sowed on the wheat towards spring.—"The sorrel left about the time it saw the young clover, & has not been seen since."

Farmers who have applied lime with partial or little apparent benefit, often estimate its use erroneously, by not taking into account the long endurance of its enriching powers, which is many times that of common barn manure.—*Albany Cultivator*.

From the *Albany Cultivator*.

MAKING AND SAVING MANURE.

MESSRS. EDITORS—In looking over the back volumes of the *Cultivator*, my attention was caught by the remarks of two distinguished individuals, appended below, and upon which you then made some valuable observations. As the subject is one of vital importance to the farmer, and one upon which there should be "line upon line," I shall make a few observations, the result of my own individual experience.

ARTHUR YOUNG said many years ago, "he who is within scent of a dung-hill, smells that which his crop would have eaten if he would have permitted it."

Sir HUMPHRY DAVY demonstrated this. He says, "I placed a quantity of fermenting manure in a retort, and ascertained that it gave off a liquid containing a large proportion of salts of ammonia. Seeing this result, I introduced the beak of another retort, filled with similar manure, under the roots of some grass in the garden, and in less than a fortnight a very