



From the Farmer's Gazette.

### LECTURES ON THE GROWTH OF TURNIPS BY MEANS OF ARTIFICIAL MANURES.

BY THE REV. MR. HUXTABLE.

A meeting of farmers, who attended the Royal Agricultural Society's cattle show, was held in All Saints' Parochial School-room—the Earl of Egmont, president of the society, in the chair—when the Rev. A. Huxtable read a paper on the growth of turnips by means of artificial manure, with a recommendation of particular combinations of manure best adapted to particular cases, and remarks on the adulteration of artificial manures, and the best mode of detecting them. The rev. lecturer, after some introductory remarks, pointed out the importance of bones to the growth of turnips, as was evinced not more by the stimulus which bone-dust as a manure proved to the growth of turnips, than by the fact that it was found by chemical analysis that there was a large proportion of the substance of bones in the composition of a turnip. There was, however, one difficulty in the way of applying bones, because they were so difficult to decompose: they remained in the earth for generations without being dissolved, which, of course, would not answer for farmers, with short lives and short leases. But the researches of modern science had here come to the aid of the farmer, and had effected that grand modern discovery of the decomposition of bones by the aid of sulphuric acid. Now, be it remembered, this was no discovery of the farmers; it was recommended by a learned professor sitting in his laboratory; and he mentioned this to show that farmers ought not, in all cases, to reject the suggestion of theory, as it was in their power often to throw out valuable hints which were of the greatest importance to practical agriculturists. Since that discovery, he believed the use of sulphuric acid for the decomposition of bones had come into very general use among farmers; but still they were exposed to imposition in the purchase of the acid, which was often sold below the guaranteed strength. Now, to test that, he made use of a simple experiment, being a ball of a certain weight, which, when he received a supply of sulphuric acid, he dropped into the liquid, and if it were of the proper strength, the ball floated, if, on the other hand, the ball sunk, the acid was adulterated. If these considerations

were attended to, he believed the farmers would find great advantage in making use of bones so decomposed. Two bushels of bones decomposed in 48 lbs. of sulphuric acid would bring an acre of turnips into the rough leaf, though it would not enable them to grow twenty tons of Swedes an acre as some had pretended; at least, unless the land was otherwise in good condition. He did not see, however, why they should not endeavour to grow that quantity. He thought farmers ought not to be sparing of the manure; they ought, in a sense, to spread a hospitable board for turnip, and feed their fat; at the same time this was to be done with a judicious attention to all the circumstances of the case. He had himself tried five bushels of bones dissolved in sulphuric acid upon an acre of turnips last year; and the turnips there shot at least a week ahead of the others, and continued to do so till the dry weather came, when they were attacked with mildew, and absolutely rotted in the ground. Now, he mentioned this, to show that it was not enough to supply one kind of manure, but that all the elements which enter into the composition of the plant must be taken into account and provided for. The application of sulphuric acid pushed forward one part of the plant, without making any provision for other, and equally important, parts; and, therefore, nothing was to be expected but that disease would ensue. The manure, therefore, that he would recommend would be four bushels of bones, mixed with four cwt. of gypsum and two quarters of coal-ashes, which were useful for absorbing all offensive smells, to be kept constantly wetted during the winter with tank water, as this would dissolve all the glutinous matter in the bones, and, at the end of two months, they might add two cwt. of salt. This prescription provided for all the different elements of the plant, and there was no fear of its being attacked with mildew. He might mention, that he had used this prescription himself on the poorest soil of Dorsetshire, and the result had been twenty-five tons of turnips to the acre. He mentioned also several other experiments that had been tried with the same, or even greater results, particularly one by Mr. Gardnier, agent to Mr. Fleming, of Barrochan, who had succeeded in raising thirty-four tons to the acre. The lecturer then proceeded to the application of farm-yard manure, and said that the best way of applying

it was, by making a compost of pure dung, mixed with two cart-loads of burnt earth, and two and a half loads of ashes. The manure thus mixed became perfectly friable and easily discharged from the drills. Being left moist, it could be laid upon the land with great expedition; he had managed to spread eight tons in the morning, and four in the evening; and, as it was absorbed immediately in the soil, no part of the gases escaped, even the hottest day; very different indeed from the former system, when the manure was spread upon the soil, and the nose and every sense of the farmer assured him that many of the most valuable properties of his manure were escaping.

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### HAND-HOEING ROOT CROPS.

The extensive culture of root crops never can be attended with corresponding benefits, if due attention be denied them; nor is this attention always productive of the desired advantages, if unattended with an adequate amount of practical skill, which can only be acquired by anxious inquiry and studious application.

This year has done more to foster and encourage the growth of root crops in Ireland, than all the years that have passed since the creation; and as the force of example does more than volumes written by theoretic preceptors, one good example will make many new converts, whilst one bad example may deter the wavering, and cause a retrograde movement on the part of those as yet but half initiated.

As a substitute for the potato, very many this year have grown turnips and other root crops for the first time. Some have adopted the change most spiritedly, others rather timidly; some rather carelessly, others reluctantly; but the worst of all were those who, through obstinacy and ignorant prejudice, refused to adopt any such change, but preferred leaving their lands idle, whilst they contributed not a farthing to the support of the poor, or spent a thought on the improvement of the physical condition of the country. These last are amongst the greatest evils that ever a country was cursed with—evils which nothing can correct but the tax screw.

That many of the spirited growers of green crops have experienced disappointments, even to a trifling extent, we are grieved to believe; but that should not damp their zeal, when they recollect the untoward circumstances, sudden chan-