

fertility of our soil, fertile as it is, without a corresponding exertion in systematic and first-rate tillage, and the application of suitable manures. Improved drill husbandry is no new thing in Ireland."

The specimens of Swedish turnips and mangel-wurzel exhibited are described as of enormous growth; some of the returns showing an average weight of 50 and 60 tons per statute acre! Most of these splendid crops were produced on land which was pronounced a few years since as exhausted and worn-out, and recently purchased in the Encumbered Estates Court; thus affording an indisputable proof of what the naturally rich soil of Ireland can do under proper management.

In connection with this truly pleasing and hopeful state of things, several instances of farm management are related which clearly show that in several districts of Ireland both tillage and draining are rapidly improving. We regret that our space will not admit of details, which could not fail of being interesting, and in some degree useful, to many of our readers. Surely old Ireland, "good time" may now be safely said to have commenced. Success to her exertions.

IMPLEMENTS AND MACHINES AT THE SMITHFIELD CATTLE SHOW.

The *Mark Lane Express*, one of the ablest and best conducted Agricultural papers in Great Britain, observes that the number as well as usefulness of the variety of engines, machines, and agricultural implements generally, exceeded all previous occasions. The number of *Reaping Machines* gave an air of novelty to an English Show. Our contemporary remarks:—

"Perhaps, however, the most striking advance upon former shows was in the reaping machines. There was a great variety of modes of cutting, each claiming merit, and no doubt possessing great advantages for certain purposes; but which of them is the best for cutting the grain crops of England time has yet to prove. First Bell's, on the perfect scissor or clipping principle; Crowley's & McCormick's, the drawcut with a sickle edge; Dray and Co.'s, the Husseyan or chopping plan; Garrett's, a combination of the clipping and chopping principles; Croskill's, a combination of the drawcut and clipping principles, with a fine serrated edge. All these plans have been more or less used, and found to answer in different degrees. The clipping has had the longest practice, and has retained the highest merit wherever it has come in competition with the others, as the farmers require a reaping machine—and no machine can be fully entitled to the name, except it cuts and lays down the crop in a continuous swath, or in parcels large enough for sheaves. Thus the success of such an implement will not be dependent upon the activity and muscular strength of labourers, who are a class

of men that do not like to be put much out of their old pace of moving; this, coupled with the past wet harvest and heavy crops, proved almost fatal to the American reapers; while Bell's, under the same disadvantageous circumstances, was applauded wherever it went. We are convinced that its great success lay much in its cutting, gathering, and laying down the cut crop in a beautifully arranged swath without the aid of man, except as far as driving the horses is concerned; and here the driver using a pair of reins, and steering or guiding it like a plough, soon feels himself at home, because the mode of action is thoroughly understood by him. We are convinced that if the harvest had been as dry as usual, the American machines would have gained a fair share of confidence among the farmers. And with some improvements, we are of opinion they will become a popular and useful branch of machinery.

Mr. James exhibited a variety of weighing machines for weighing all sorts of live farming stock and other produce of the soil. We are strongly of opinion that the time is not far distant when farmers will use the test of weighing the food for their stock, and the stock occasionally while growing or fattening; thus the farmer will be able to detect the errors he committed in selecting or breeding his stock, and the feeding value of each description of farm produce. In fact, we were the more impressed with this idea as we mused over the immense size and weight of the fruit, roots and plants, we saw on the stands of the eminent seedsmen; and especially on the produce of the Emerald Isle sent over from the Dublin Show, which spoke louder than words that both the soil and climate of Ireland are all that can be desired.

With reference to the Steam Engines for Agricultural purposes, the *Morning Chronicle* has the following remarks:—

The yard adjoining the premises was visited in the course of the day by numerous scientific and practical agriculturalists, the source of attraction being a number of portable steam engines at work, by the most eminent makers, including Messrs. Garrett & Son, Messrs. Tuxford & Sons, Mr. Hornsby, and Mr. Burrell. The engine of Messrs. Garrett & Son was shown in connection with their very complete threshing machine, to which we yesterday alluded. The engine of Mr. Burrell was also shown driving a threshing machine. The engine, however, of Messrs. Tuxford & Sons excited the greatest amount of attention and interest. The advantages of the portable housed engine of this firm are self-evident, and the number of them which has been made by the firm proves that they are duly appreciated. At the late Great Exhibition this engine was selected by the engineers of the French and Prussian Governments as the best shown, and two of them were purchased for deposit—one in the Conservatoire des Arts et Metiers, and the other in the Museum of the Royal Society at Magdeburg. The working parts of the engine are effectually protected when at work from the destructive grit and dust especially given out in most agricultural operations. They are secured from the weather at all times; and from any interference with their working parts by being under lock and key. They may be managed by any ordinary farm labourer, with a few days' instruction. They have upright cylinders, this, it is contended, being the best position to ensure the cylinders not wearing oval, as is the case with the horizontal cylinder. The "governors" of the engine act in a very simple and effective manner direct upon the throttle valve, and from this arrangement cannot well be put out of order. The boiler is made of Low-moor iron, and has water-space flues leading from