

Here the roller does good service to the land in consolidating the surface soil, which it leaves at the same time in a finely divided condition. On soils of a loamy character the heavy rains of winter frequently, if succeeded by drying winds, leave the surface battered down and coated with hard dry crust impervious to the atmosphere, and obstructive to the increasing vitality of the plant at that period of the year. This may be readily broken up, and a healthy surface restored, by a double turn with the light seed harrows. Later in the spring the operation of hoeing should not be neglected, as even on the cleanest farms a certain number of weeds will always be found, and they must abstract from the soil matters that would otherwise be available as food for the growing crop. The introduction of the expanding horse-hoe has been a great benefit to the farmer, as it enables him to hoe his wheat land more efficiently, more quickly, and at a saving of three-fourths to four fifths, as compared with hand labor. Hand-hoeing is generally piece work. Here the interest of the employer and the employed are opposed to each other, and one generally suffers. The object of the farmer is *quality*, the object of the labourer is *quantity* of work, and if the latter is not well looked after, or above the average honest, the one is sacrificed to the other, and the soil removed by a 6-inch cut with the hoe serves to cover up the next 6 inches of untouched surface; while the agreed price of say 3s. per acre actually becomes 4s., 5s., or 6s. per acre, according to the proportion left unhoed.

Time, too, is an important element in this operation. Hoeing must not be attempted, unless the ground be in a suitable condition, or it would occasion more harm than good; and this particular condition rarely exists for more than a few days at a time, at the season when hoeing should be done, a shower, if only of an hour's duration, frequently putting stop to a chance of hoeing for the remainder of the season. Where there is a large breadth of wheat grown, the labor question of hoeing becomes a serious one, as a man cannot fairly and properly get over more than half an acre per day, especially where the drills are of the ordinary width. The horse-hoe relieves the farmer from much of his anxiety. He has only to regulate the depth and the width of the cut, and be assured that the whole of his surface will be equally acted upon by it. He finds that, with one man to direct, and a horse to draw, the implement will do on the average from eight to twelve acres per day (according to the description of soil and width of drills) in a superior manner, at a cost of say—horse, 2s. 6d.; man 2s. 6d.; wear and tear, 1s. = 6s.; which would have required the employment of sixteen to twenty-four labourers to effect, and at an expenditure of from 24s. to 36s. This, like many other machines possessing equal advantages, can only *follow* good farming. Before it can be rendered available,

the land must be drained and laid flat, the surface must be well tilled, and the seed must be deposited in parallel lines; then there is no difficulty whatever in successfully working it.

After the hoeing has been successfully accomplished, the wheat must be left to take its chance against the various injuries and enemies which attend upon every period of its growth. These we will discuss after we have harvested our crop, as, although the injuries they inflict are principally during its growth, our knowledge in reference to them is unfortunately far too imperfect to enable us to assign, except to a very few, the exact period of their attack, the part of the plant in which it is commenced, or the mode in which it is effected.—*Our Farm Crops*, by Professor WILSON.

Advantages of Agriculture to be expected from the Great Exhibition, 1862.

Extract from the remarks of Mr. Brandell Gibbs, before the Bedfordshire Association:—

"Continuing then, this glance at the future, may remind you that next year our society about to hold its great Metropolitan meeting under the presidency of His Royal Highness the Prince Consort, and this too during the period of the Great International Exhibition of 1862. A metropolitan meeting is an event not likely to take place above once in a quarter of a century, and we may therefore, fairly expect the thousands will throng our show-yard, not only from all parts of the United Kingdom, but also from foreign countries. It may be asked, 'what advantage will the attendance of foreigners be to us? Will they not gain more from us than we from them? Cannot our agriculture vie with that of any other country in the world? Are not our implements far superior to others, and cannot our live stock defy competition, come whence it may?' In reply to this would ask what then is the benefit of an agricultural show, and what has been the result of the Great Exhibition of 1851? Of the benefit of any agricultural show, I would say that I believe that no man of ordinary observation can attend your interesting show this day without gaining some information. Those who are engaged in the same pursuits meet together, ideas and experiences are interchanged, failures or successes in experiments are explained, useful inventions are stamped with approval, and prejudices are removed, and information communicated from one to another. If, then, this holds good of a local meeting, if concentrating the agricultural experience and knowledge of any county or district is of mutual advantage to those residing in it, how much more forcibly does this apply to the meetings of our National Society, which bring together those who would scarcely otherwise, have the opportunity of meeting, and need then go but one step further. I have