

profitably practiced in this country, has been thoroughly proved by the writer and scores of other American farmers, and when accompanied by horse-hoeing, at least twenty per cent. may be added to the yield of those crops enumerated above. From a number of trials, some of which were made upon a pretty large scale, an additional average of five bushels of wheat per acre from drill husbandry alone, was produced; and when horse hoed, a still further additional average of five bushels per acre was the result. So large an extra yield as this should certainly be a sufficient inducement to influence every thinking man to make some effort in becoming acquainted with this or any other system of agriculture adapted to produce so favorable a result.

Some of the most prominent benefits to be gained by drill husbandry are, a saving of about one-fourth in seed; the regular distribution of seed in rows to a uniform depth; the free admission that is given to the air and rays of the sun, between the rows of the plants; the excellent opportunity it affords the farmer for the eradication of noxious weeds that may appear in the growing crops; and for the use of the horse hoe in the early spring and summer months, by which a much larger growth of straw and yield of grain will be produced on most soils, and besides the ground will be thoroughly cleaned and improved in texture for the succeeding crops.

The saving in the quantity of seed is not an object that should influence a change of system in the mode of farming in this country, so much as that of obtaining a greatly increased yield; but nevertheless, when a large breadth of land is sown, a saving of one or two pecks of seed per acre is an item of some importance. When the seed is sown in rows, the roots of the plants, especially of winter wheat, become interwoven in each other and hence are not so likely to be thrown out and destroyed by the action of winter and spring frosts as if sown broad-cast, and besides the tops of the plants spread and cover the roots, which afford a natural protection to them during the most critical period in the growth of the wheat plant, in the northern sections of our country.

If a portion of a field be sown with a drilling machine, and another portion be sown broad-cast, that which is drilled will not suffer nearly as much by severe frosts as that sown broad-cast. After an extremely cold winter, or a cold backward spring, wheat sown in the ordinary method, will in most cases, have a sickly and stunted appearance; whereas that sown with a proper drilling machine will scarcely be effected by the frost. There may be exceptions to this rule, but after many years experience with both systems it has been found the case in almost every instance where drill husbandry has been efficiently tested.

The regular width between the rows should not be less than nine or more than twelve inches. Where drilling grain crops is practiced with a view of employing horse hoes to clean the ground, the rows should be about eleven inches asunder; a less distance than this would be advisable, if the crops are not intended to be hoed; but if the rows be much less than a foot apart, it will be found difficult to efficiently work the land with hoes while the crops are in a rapidly growing state. Horse hoeing a crop of wheat or other grain, once or twice in the early part of summer, will promote a very strong and healthy growth of plants, and land that ordinarily produces only fifteen or twenty bushels per acre, will, under favourable circumstances, yield from thirty to thirty-five, and even as high as forty bushels per acre. While this statement will be found to fully accord with the practice of most of those who adopt drill husbandry and horse hoeing, yet it must not be forgotten that there are soils which do not possess a sufficient amount of the requisite elements or food for the wheat plants, to produce so large a product, and hence a much less average increased yield must be taken in the aggregate.

A smart plough-boy with the aid of a horse, and a single drill horse hoe, will find no difficulty in cleaning three acres per day, in the long days of the month of May or June. Two such hoeings would not cost more than one dollar per acre, which is a very trifling expenditure, when the advantages resulting therefrom are carefully taken into account. By the use of the improved English self-expanding horse hoe, one man and a horse will clean in a more perfect manner than can be done by employing hand hoes, from eight to ten acres per day; but as these machines, being constructed entirely of wrought iron and steel, are very expensive, their use in this country is not likely to become very general.

The increased quantity of straw produced by horse hoeing a crop of wheat, barley, peas, oats or rye in the manner described, may be safely calculated at an average of thirty per cent. on the amount that would be produced by the ordinary method of sowing those grains broad-cast. The value of this straw in many parts of our country, especially near large cities would be an object, and where it is not a marketable article, it will be found worth at least as much as the outlay in hoeing the crop, for the purpose of fodder and manure. The extra cleanliness of the ground produced by the frequent use of horse hoes among growing crops, is an advantage that must not be slightly passed over.

The extra large yield of straw, the proportionally increased yield of grain, and the superior tilth or cleanliness imparted to the soil by the practice of drilling and horse hoeing the ordinary field crops grown in our country, are of such great magnitude that no intelligent cultivator