FARM AND FIELD.

HOW TO RAISE BIG CROPS.

It has often been asserted by advanced agriculturists that if wheat, either Spring or Winter, is sown in drills, far enough apart to admit of using a horse hoe between the rows, both to keep down weeds and loosen and aerate the soil, the yield might be increased to a marvellous extent more than it now is in this country.

In proof of this, a recent observing and intelligent traveller in Belgium gives the mode of culture there and the yield, which sometimes, with very favourable weather for harvest, reaches as high as one hundred and sixty bushels per acre. This is one of the most fertile, prosperous, and most populous countries in the world, supporting 481.71 persons to the square mile, against 18.92 in the United States and 216.62 in Germany. Winter wheat is a staple crop there on their high-priced small farms of only an acre or two. The land is highly manured in autumn, well harrowed several times, and got into the best possible condition. The grain is sown in the fall in seed beds, very thickly on the highest and best location, where it is not likely to be winter-killed, or injured by any casualty, such as over-flowing or drowning out, or smothering under the snow.

In the spring the main fields are again dressed up and marked out in drills the proper distance. When the wheat has grown sufficiently to be moved, it is thinned out by being taken up, separated from the thick stools, and planted in the drills with a tool called a dibble, which makes a hole the proper depth, into which the wheat roots are inserted, pressing the earth tight against them with the foot. This work is usually entrusted to half-grown boys and girls, a man sorting out the wheat plants in order that those of the same size may be placed together, that the field may grow even and regular.

When the plants have commenced growing, the soil is thoroughly and constantly stirred, either by means of hand or horse power. Every weed and all foreign plants are destroyed, and nothing but what is wanted, the article itself, is allowed to grow. There are very seldom any extensive failures of crops thus carefully and scientifically grown. The yield is a quantity never imagined or heard of in this country, and the crop always and surely pays the cultivator.

It is asserted that such pains would not pay to apply to crops in this country. But do we not go to the opposite extreme? Has it ever been tried here? It certainly would pay satisfactorily if applied to choice varieties in small quantities, about to be used for seed. It is certainly better to till one acre and get a crop now raised on four acres, than to try the four and only raise half a crop, which is now so often the case here.—*Milling World.*

THE CANADA THISTLE.

There has lately been as much fuss made, in the columns of some of our exchanges, over the Canada thistle as if it were a new enemy, destined to be the death of agriculture if not instantly and utterly exterminated, instead of an old familiar one which the majority of people treat with indifference, if not with absolute contempt. The proverb that "what can't be cured must be endured," has been almost universally applied to thistles, and, pests as they are, farmers have managed to prosper in spite of them. The abundant rains of the present year have, however, caused them to spread with such rapidity that serious alarm for the future is felt; to allay which—and possibly to put a stop to the voluminous correspondence on the subject—the *Globe* recently devoted a leading article to thistles, and promulgated a dictum to the effect that by using a cultivator with broad shares they might be killed in a few cuttings. The *Globe* probably knows as much about farming as Horace Greeley, and its advice is no doubt good; but our belief—expressed some years ago—is that the quickest way to rid the country of thistles is to set donkeys at them. At any rate, the experiment is easily tried, as there are donkeys in Toronto and thistles almost everywhere. If the animal eagerly devour the weed, as we believe he will, then the question is settled, the panacea is discovered, and it only remains to avail ourselves of it. Let every farmer become as soon as possible the possessor of a donkey; turn it loose on the road sides and waste land from spring to fall, or on the farm where it can do no damage, and in a few years the Canada thistles will have disappeared from everywhere but a few secret places, and the meek and patient ass will be eagerly hunting for stray specimens of its favourite delicacy.

THE POTATO.

Fair esculent, what person, saint or sinner,
  But welcomes thee each day upon his table,
Especially at noon served for his dinner,
  Fresh from thy bin or sheltering bed of sable?

How would a beefsteak look without thee, facing
  With thy mild eyes its blushes faint and tender?
How would it taste without thy round form gracing
  The dish o'er which its savoury juices wander?

With bursting sides, dry as a roasted chestnut,
  With fine-grained starchy flesh—a piping plateful—
What man, though epicure he be, would haste not
  To do thee ample justice, and be grateful?

When dessert comes, a flaky paste or pudding—
  It follows well, I grant; ofttimes we need it;
But woe to it, though plums its sides are studding,
  If thou dost not, fair tuber, just precede it.

Old Ireland lifts her heart each year and blesses
  Thee as her friend; when corn and wine have vanished
Thou hast relieved her wants, her sore distresses,
  When, but for thee, her thousands would have famished.

On rows, in hills, thy slender stems are growing;
  They thrive alike in shine or partial shadow;
All through the pleasant land their green is showing,
  From Maine's far coasts to plains of Colorado.

I, precious, healthful plant, for one would praise thee,
  Admire thy flower whene'er I see thee blooming
As beautiful, though common as the daisy,
  And greet thy spheres whene'er I see them coming.

Give all due praise to squashes and cucumbers,
  To sugary beets, the smooth, ripe, red tomato;
But, generous friend, to thee I write these numbers,
  Thou stalwart commoner! thou blest potato!

—*National Free Press.*

DRAINING LAND.

It is not healthful to have wet feet. Plants suffer in this way greatly. The removal of the surplus water from the soil is one of the indispensable necessities of good farming. The story was well told by the Hon. T. W. Palmer in an address to the Western Michigan Farmer's Club, when he gave them the result of his own experience, as follows:

"I have now over 270 acres underdrained, and hope hereafter to report to you good results. The ground was so flat and the descent was so gradual that I had all the tile laid under the supervision of a surveyor, who took the level of my mains and laterals. The average depth of my laterals is two and a half feet, and, although many have said that I should have put them deeper, I have as yet seen no reason to think so. In my heaviest soils I have put them four rods apart; where the subsoil afforded a free passage to water I have put them eight rods. The result so far has been that I can get on any of my fields to plough or cultivate a short time after the heaviest rains. In former years I had to wait until June for some of the same land. The average price of my tiles and laying them has been ninety cents per rod. The expenditure may seem large, but I came to the conclusion that I might as well try to farm on the bosom of Lake Erie as on land saturated half the year and baked the other half.

"Underdraining makes the farmer master of the situation. It lengthens the season for the plants and for the farmer. If a man cannot spare the money or the labour, which is the same thing, to underdrain more than half an acre, let him do that much. There are methods of economizing in every family which will enable him to do that. In fact, it will pay a young man to do it on moonlight nights if he can accomplish it in no other way. I am told that it pays to underdrain all lands where water will stand in a hole two and a half feet deep the wettest season of the year. That being the case, I believe there is very little land in Michigan which would not be benefited by underdraining.

"After you have your land in such a condition that the water will not retard the growth of farm products, the next thing is to add to it what will make it more productive, taking care that it does not cost more than it comes to."

STARTING CUTTINGS.

Professor Budd, in the Iowa *Homestead*, condemns the storing of cuttings in the cellar as ordinarily practised, "in sand or earth just moist enough to preserve them in condition suitable for grafting, as thus they will fail to absorb the requisite moisture needed for changing the starch stored in the cell structure into sugar water, and the base of the cuttings instead of callousing will be found a little blackened and the bark and cambium layer at the extreme base dead or nearly so. If these cuttings are put out the upper buds will start, when the requisite heat is furnished by the sun, and *exhaust all the stored nutriment in the cutting* before a show of callousing is exhibited at the base. On the other hand, if the same cuttings were packed in sand in a corner of the cellar, or in shallow boxes with the base of the cuttings upward and screened from the air by not more than two inches of sand kept all the time moderately moist by sprinkling, every cutting will callous. When planted in the open air such cutting will emit roots before the top buds make much of a start and with few failures will make nice plants before fall.

"But the commercial grower should not bother with keeping ligneous cuttings in the cellar. It is far better to put them in a pit in the open air.

"Set the bundles *upside down* in a shallow pit on dry ground, as tightly together as they can be crowded. Cover over the top about five inches of earth, and as it grows cold cover the whole with fresh horse manure to mainly keep out frost. As the sun gains strength in the spring take off the manure and rake the earth fine and even. The sun heat will finish the callousing of the butts of the cuttings by the time the ground is ready to receive them. Treated in this way the farmer can rear the grape, the weigelia, the tree honeysuckle, several of the spireas, the catalpa, and a greater number of trees than he might suppose possible."

EFFECTS OF PHOSPHATE ON WHEAT.

There is more discussion than usual this year among farmers as to the effect of leaving alternate strips the width of a drill without phosphate. Very few drills will distribute the fertilizer evenly around a long "bout." In many fields there is a strip six feet wide of comparatively good wheat, and another on each side not worth the cutting. It would have been money in the farmer's pocket if he had ploughed the missing strip. The wheat it contained is thin, shrunken and unsalable. In other years the yield has been smaller, but the