#### May, 1878

## THE FARMERS' ADVOCATE.

# Solid Land for Wheat.

From an English standpoint, Mr. J. J. Mechi says—and so far as the question of solidity is con-cerned, the rule will hold good anywhere :—"From long observation and experience, I am more and more convinced that a loose friable bed for wheat is a mistake, and that compression or solidity is essential to the well-doing and non-rootfalling of the crop. The old system of dibbling wheat will be esteemed, especially in light and friable soils. The treading, and also the weeding by the dibble, had the effect of consolidating the soil. The drill has superseded the dibble, for it does the work so much more quickly, and deposits the seed more uniformly. A good dropper was not of the able obtained. I remember seeing lines of human beings treading the newly-sown wheat on the late Mr. Woodward's farm in Worchestershire. convinced was he about solid land for wheat that he used 24 horses for three days trampling down some nearly broken up grass land after sowing it with wheat, and so got a fine upstanding crop."

After discussing the relative merits of dibblingdropping a single grain of wheat at regular intervals, he says :-- "As regards the proper quantity of seeding per acre, much must depend upon certain circumstances of soil, climate and fortility. No doubt, as a rule, the excess of quantity is absurdly wrong; but I will make a humble bow add deference to those who, by trying compar-ative quantities, have arrived at a suitable and profitable conclusion. The average increase, according to Caird, is 9 to 1. I will venture to assert that it is impossible to obtain from a sound wheat kernel, having room for development, so small a return as even a single ear, which would probably give 30 to 40 or more for 1. When I dibbled my one peck per acre of wheat (one kernel in every dibble-hole at about  $4\frac{1}{2}$  or 5 inch intervals) there were usually several ears from each kernel, often 10 to 25, and I know of a case re-cently in Kelvedon where a single kernel produced 108 stems and heads, but then it had no competitors. It grew on parsely bed. Liebig truly says that the greatest enemy to a wheat plant is another proximate wheat plant. From what I hear, the thin sowing light is dawning gradually on British agriculture.—Michigan Farmer.

## Fertilizers for Root Crops.

A noted English writer on fertilizers for roots says that superphosphate of lime is principally used in England; but guano is used to a consider. able extent in Scotland and Ireland, where the climate is cooler and moister than the south of England. In dry seasons there, as well as in this

mangels," but root culture is one of the main crops in England, and immense crops are obtained which warrant the use of such large quantities of fertilizers. He admits that artificial fertilizers often prove a failure-"in many cases the money exprove a failure— in many cases the money ex-pended is wasted, while in other cases it is well spent." The manner of applying fertilizers on English prize farms is thus : "Artificial manures are applied by hand on the surface, namely, 5 cwt. of pulverized bone, 1 cwt. of guano and 3 cwt. of superphosphate, at a cost of £3 10s. per acre. The land is then scarified, harrowed and rolled, by which operation the artificial manures are thoroughly incorporated with the soil, and the last week in May, if the season admits, the turnips are drilled on the flat, at a distance between the rows of 19 inches.'

### Corn as a Farm Crop and for Food.

The Milwaukee Milling Journal has an article comparing the cost and food value of wheat and corn, to the disadvantage of the former. The cli mate of Canada is not so favorable to the proper maturing of corn as that to the south, yet it might be profitably grown to a greater extent than it is. It would give us a greater diversity of crops, very profitable in agriculture, and if even not well ripened, it has its advantages for stock feeding. The Journal says :

Wheat is the dearest food consumed by mankind, and when the comparative value and cheapness of the different grains is more thoroughly understood, the singular fact will be developed that there is as much caste in food as in the human race that is supported by it. Scarcity and high cost of wheat will eventually force nations and individuals to learn that the moral and financial elevation of the masses depends upon the substitution of some good material cheaper than wheat and bearing nearer proportion to the reduced state of wages now prevalent the world over. When the conventional necessities of life increase in cost, laborers' wages diminish, and suffering and discontent ensue. The following comparison will show that corn, as well as oats, is cheaper food than wheat :

Oats contain 19.91 per cent. nourishment; corn. 12.30 per cent., and wheat, 14.06 per cent. Each pound of nourishment from oats at 58<sup>‡</sup> cents per bushel costs 9.33 cents; from corn at 67 cents per bushel, each pound costs 93 cents, while from wheat at \$1.07 per bushel each pound of nourish-ment costs 20.61 cents. The corn crop of the United States equals the wheat crop of the civilized world, while 40 per cent. of the latter can not raise sufficient for their own wants. The deficiency in the United States wheat crop for 1876 exceeded the entir ports of wheat in 1875 were 10,000,000 bushels less than in 1874, showing that wheat cannot be claimed as a sole dependence from the rapidly increased population of the world. Corn must, be-fore many years, be consumed as a partial substitute, at least, for wheat, and the better the quality of the grain and the more perfect the process of preparing it for food, the quicker will come the enlarged demand. This is in part confirmed by the fact that our exports of 1876 were 3 per cent. of our whole crop, while for the twelve preceding years they averaged only 1 per cent. of the corn produced.

through the soil, carrying to the roots the nutritive elements with which they are charged; the absorb-ing property is increased, it holds more moisture in suspension and crops remain luxuriant even in seasons of drouth, and superfluous water being removed from below, the heat of the sun is economized in warming the soil, instead of being expended in the evaporation of surface water.

Briefly it may be stated that some of the advantages of underdraining consist in the removal of stagnant water from the surface, and excess of moisture from heavy rains; the temperature of the soil is increased, which allows early planting of crops and hastens their maturity; it equalizes the moisture of the soil, so that crops are in a great measure exempt from the evils resulting from ex- cess of rainfall on the one hand, or from a deficiency of rainfall on the other; the roots of plants are supplied with soluble food carried down by rains, as well as that which is rendered available by the decomposing influences of air and moisture on the surrounding soil, and on such manures as are applied for additional fertilization; the land is more economically worked, and cultivation suffers less interruption at all seasons, and as a consequence crops are increased to their maximum production, at least so far as they are dependent upon the physical condition of the soil, a factor of equal importance with that of its chemical constitution.

#### Leaks in Bad Cultivation.

At the meeting of the Pictou Agricultural Society, Prof. Lawson addressing the meeting on several points in scientific agriculture, said :

I do not advocate thorough draining and high cultivation to start with; the first thing was to find out the leaks in bad cultivation, waste of manure and waste of feed, and to stop them. Then more rapid progress could be made, for farming would become more and more profitable. By our present want of system it is impossible that it can be. The remarkable fact was brought out by several speakers that of late years there had been a great depreciation in the assessed value of farms in Pictou County. One gentleman instanced a similar depreciation in the fertile districts of Cumberland and the Sackville marshes, where thousands of tons of hay were annually sold off the farms, and nothing returned to the soil to keep up its fertility. In Ontario the wheat lands are giving out from the same cause, and in Massachusetts farms are yearly passing into bush land. Facts like these, which touch not only the material welfare, but the very existence, of our people, should be investigated by our statesmen as pointing to the greatest problem in political economy that remains to be solved on this continent.

## Killing Canada Thistles.

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country, these fertilizers do not give satisfaction. Having, in connection with other scientific farmers, made many experiments with artificial fer-tilizers, running through a series of years, he came to the following conclusions :

1. That their action is very much dependent on the soil. Some soils possess a great responsive power, and others do not respond at all to fer-

2. Poor land, and in poor condition, derives the most striking benefit from artificial dressings. Lands in high cultivation, on the other hand, derive often no benefit at all.

3. Superphosphate is the most paying manure we can use for Swedes.

4. Guano, nitrate of soda, farm yard dung and organic matter containing nitrogen, diminish the germinating power of the seed and cause a blankness in the crop when they are brought into close proximity with the seed.

5. Guano and nitrate of soda top-dressed on, either at the time of sowing, or later, by which means they are not placed in contact with the seed, increase the crop, but not to an extent which war rants us in recommending them in the district.

6. The dissolved guano is less injurious in its effect upon the seed than ordinary Peruvian guano.

7. That the benefit from the application sometimes is represented by 10 to 12 tons per acre over the unmanured plant, and that in other cases the unmanured plants are fully equal to those dressed, in which cases there is a heavy pecuniary loss from their application.

8. About 3 cwt. of superphosphate to the acre has given the best economic result during several years' experience, extending over hundreds of

#### Draining Land.

Clay soils cannot produce to the full extent of their ability unless underdrained. The ordinary routine operation of plowing has a tendency to form a compacted strata immediately below the cultivated or plowed portion, which acts as a basin in the retention of water; such soils are cold and late, because the water prevents the heat of the sun from warming the soil until the water has been removed by evaporation, which produces cold; so that in addition to the impracticability of early spring cropping of such soils, every summer shower cools the earth surrounding the roots of the growing plants, which thus sustain a series of checks in their progress to maturity. These evils are removed by draining. Even the

strongest clays are more or less permeated by veins of sand or gravel, sometimes by a layer of vegetable matter which has collected in a crack or fissure; but so long as there is no outlet beneath these conducting veins they are inert, but when underlaid with drains their action is at once apparent; the subsoil that previously held water like The writer says, however, that on some soils a lasin now transmits like a filter, and as the water larger quantity is applied, "as a ton per acre to sinks the air follows; the rains descend freely

I had on my farm a four-acre field covered with Canada thistles. I say "had" because I am convinced the present season's treatment has made it too hot for them and I shall see no more of them. The land was strong—"it takes good land to raise good thistles." One-half of the field was seeded, immediately after plowing and a thorough working with a two-horse cultivator, with soiling-corn. This was put in drills, 30 inches apart, with a large one-horse seed-drill—about 32 bushels per By the frequent use of the cultivator the acre. space between the rows was kept clean, and directly in the row the few that have stuck up their heads look very yellow and sickly, shaded by the dense growth of corn. The remainder of the field was seeded heavily with Hungarian grazs. Timely showers have made the season favorable for this crop and it has grown rapidly, smothering the dis-agreeable former occupants of the soil. I do not agreeable former occupants of the soil. I do not consider this so successful a mode of treatment as the former, because Hungarian grass grows so slowly on the start and the thistles have an opportunity to gain a foothold. The crop is nearly ready to harvest. Here and there, in looking over the field, a thistle is seen, but a stranger would never mistrust how foul the field was seventy days ago. At any rate what few there are will be cut before they mature seed. - Cultivator.

### Sheep for Cut-Worms.

Experience has taught me that cut-worms never follow after sheep or bother on land where sheep have run the previous fall and winter. If you have no sheep of your own, let your neighbor's turn in, if you have land that is likely to be in-fested with them. If the ground is thoroughly pastured you need not have any fear of cut-worms M. L. L. in Prairie Farmer