

PREPARING LAND FOR WHEAT.

In growing wheat there are few things of more importance than a thorough preparation of the ground for the seed. Not only should it be well plowed, but thoroughly worked with the harrow and wheat cultivator or gang plow. The plow or cultivator must be used when the ground is hard. Summer fallows broken up early in the season, when the land was rather wet, may be dried down hard, and need plowing to again work up fine and mellow. But when land has been recently plowed, and is not baked, the harrow and cultivator will put it in fine condition.

There is great advantage in the frequent use of a good harrow. It works land down into that fine, mellow, rather compact condition, that, while it is not in the least hard, it is the very best state for wheat. It is much better than the loose, spongy condition, sometimes produced by too much plowing. When a tough sward is broken up after dry weather has set in, in the summer, harrowed once or twice, and then cross plowed in August, the sod not being thoroughly rotted, will in pieces of various sizes made up of a mass of dry roots and stems, be mixed through the soil, keeping it in a light huffy condition, not easily worked down, and in which wheat is more liable to injury from freezing out. Dry stubbles also often plow up loose and huffy, and liable to the same difficulty. The best remedy for this is frequent harrowing. A good 48-tooth harrow will work down such land into a proper state better than anything else. Then, if after laying a week or two, the land needs more working, put on a good wheel cultivator, and work it up four or five inches deep, when another thorough harrowing will make it in fine condition. A good roller will help work down such land, but the effect is not equal to that produced by the harrow. It leaves the soil looking very smooth and fine on top, but don't put it in as fine and good condition all through, for the fine roots to penetrate, as the harrow.

When any sward is broken up deep enough to furnish a good seed bed in the soil turned up there is seldom any advantage in bringing the sod back to the surface. A thorough working with harrow and cultivator, frequently makes a better preparation on the sod than can be secured by cross plowing. This is especially the case when clover is plowed rather late, or any sward is broken up after harvest. Then, as the sod will not be rotten enough to work down fine, it is far better at the bottom of the furrow. It is also of some benefit there, holding the soil well together, while it prevents baking down on the subsoil; and, when plowed in the proper direction, leaves room at the bottom of the furrow for surplus water to work off.

When a summer fallow is broken up early, and the sod is so rotten that it can be worked down as fine, there will be less difference. Then cross plowing once or twice—twice is best—with sufficient harrowing, will make the land in good condition. Still, in such cases, the more harrowing the better, for there is nothing like a good harrow to put land in the best condition for wheat. With shallow plowing, say four or five inches deep, this course is often the best. But when broken up from seven to ten inches deep, as nearly all good wheat land should be, once plowing is generally the best.

August is the best time to manure for wheat. After land is brought into fair condition, so a good cultivation and harrowing will make it all right for the seed, then apply from twelve to fifteen loads of well rotted manure per acre. This manure must be spread very fine—it should be so thoroughly broken to pieces and distributed that none will impede the cultivator or harrow. When well spread, it is not

only more benefit to the crop, but saves time, as it costs more labor to be frequently stopping to clear a clogged cultivator or harrow, and spread the bunches thus drawn together, than to thoroughly do the work in the first place.

Manure, well rotted, does the most good when applied in this way. If not well rotted, it must be plowed in, as coarse manure cannot be well worked in with the harrow and cultivator. If partly rotted and plowed under four or five inches deep, with a narrow furrow, turning less to the bottom, and leaving more between the furrows, it will do very well. Then a large portion of the manure is near the surface, where it will soon benefit the young wheat. A leading object in surface manuring is to give the young plant a good start, secure a good growth and strong roots in the fall, and thus put wheat in the best condition to stand the winter and spring, and to finally make a good crop. It is also a great help in securing a good seeding to clover with the wheat. Coarse manure, plowed under a deep furrow, can be of little benefit in this way, and is of doubtful advantage at the best. If lightly plowed under, more or less will work out and interfere with subsequent cultivation, and may seriously obstruct the working of the drill. All manure should be so prepared and applied as not to interfere with the operation of a good wheat drill.—*Country Gent.*

PROSPECTIVE POVERTY.

The one great question with Canadian farmers is, or should be, how to retain the fertility of the soil? The rapid decrease in the production of staple crops in the United States, and even in sections of our own country, teach us the necessity for staying the destructive inroads that are being made on the cropping capacity of our lands. A radical reformation must be made in our system of husbandry. Under the present plan, the richest soil will eventually run out. We can trace our present over cropping to the original wealth of our soil. Farmers seem to think that there is no limit to its endurance, and this has fostered a most improvident system of culture, and made a most fearful reduction in the annual yield. If we do not change this, it will tell upon our material prosperity, and the barrens of Virginia and Georgia, will find their duplicate in the Dominion of Canada. Tobacco is not alone the only crop that possesses the power to blast the fertility of the soil, and unless we introduce, to certain extent, the elementary principles of European farming, we will find our average yield growing "beautifully less." The rotation system is a powerful adjunct in preserving the fertility of the soil. Its value is proved in its adoption by those nations that have taxed the resources of their land for centuries. Is it wisdom for us to delay its adoption until the productive energies of our land are prostrated, and a straggling clump of wheat here and there over our fields, stand as monuments of our folly? Prevention is better than cure. We must check the wasteful extravagance of manure, and realize the fact that we must restore a portion of the elements taken from the soil by the growing crops. It is well enough to sneer at the system of artificial manures, but the fact remains that, theory or no theory, unless something is applied, the land is soon exhausted. The motto of too many is, "let the future take care of itself," but we contend that a judicious and economical use of man-

ure, not only preserves the fertility of the soil, but pays in immediate returns. How few farmers have proper conveniences for preserving the fertilizing elements of barnyard manure. Large heaps are allowed to mingle their most valuable elements with the waters of some storm-born stream, and their value is lost. Huge piles of straw, instead of being used in littering cattle and applied in the form of rich manure, are removed out of the way by the match, and a small patch of rank growth, is all there is to show for what might have produced bushels. There must be an increased breadth in roots and grass, as these will promote the house-feeding of stock in winter, which apart from the increased value of stock, will cause the saving of greater percentage of manure in its most valuable form. We will not elaborate on this idea at present, although its importance cannot be overrated. As a people depending on agriculture, everything that has a bearing on the development of our resources and their unimpaired preservation, is of vital importance. We simply give it as our opinion that a change is necessary, and believe that all who give the subject serious consideration, will agree with us.

DRAINAGE.

No settler can, unassisted, drain his land. There must be a general system, adopted by the country, for a universal drainage by providing such off-take drains as shall be sufficient to discharge all the water which may be received from the side ditches constructed by the settlers. Here is a case in point. The Township of Sandwich, East, dug a very good ditch for carrying off the waters of the Grand Marais, which they extended as far as the Gravel Road—the Westerly limit of the township. The adjoining municipality of West Sandwich, neglected, or refused to continue the ditch, so that the East Sandwich ditch is, for the present, absolutely useless.

In the townships, the making of drains is entrusted to men, very deserving ones, no doubt, yet perfectly ignorant as to the system required. For instance, Councillors will let a ditch specifying that it must be two feet deep and four feet wide at top; this without reference to the inequalities of the ground; the ditch, therefore, runs up hill and down dale, or rather, does not run at all.

The width of a ditch must be limited by its bottom, not its top width. This latter must be regulated by the slopes given to the sides. In ordinary soil, the slope that the earth will finally take, naturally, is one foot and a half horizontal to each foot of perpendicular depth; so that a ditch four feet wide at bottom, (main drain should never be less) and six feet deep would require twenty-two feet for top width. The bottom of the ditches should be on an even grade towards their outlets, of not less than four feet to the mile. Half the ditches in the country are made with sides almost perpendicular; the consequence is that the action of frost and water cause them to cave in and render them practically useless. All these things should be done under efficient superintendence. The motto in such cases is "Method, METHOD, METHOD!"—*The Dominion.*

A Missourian informed a traveler, who inquired about his corn, that each stalk had nine ears on it, and was fifteen feet high. "That's nothing to ours," replied the traveler. "Up in Illinois, where I came from, we always had nine ears to each stalk, and a peck of shelled corn to each tassel; but we could never raise any field beans with it." "Why?" "Because the corn grew so fast that it always pulled the beans up."