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The Field.

Mistakes in Wheat Growing.

Most farmers aspire to raise wheat. It is the great staple crop of the country. There is sure to be a market for it. A man feels prouder over a good yield of wheat than he does over any other farm product, without it be a fat Short-horn steer, of mammoth size, concerning which he can say that he both bred and fed it. But while most farmers have an ambition to grow wheat, only here and there one really knows how to do it; and there is perhaps no crop grown in the country, which so often disappoints the hopes of the husbandman. In the majority of cases, this is the result of mistakes which may be corrected and avoided.

A very common mistake is that of supposing that any sort of land will grow wheat. There are adaptations of soil which ought to be carefully studied, so that each variety may be devoted to such purposes as best suit it. While most farm products have a faculty of accommodating themselves to circumstances, and will grow after a fashion, anywhere, it will pay to make everything as favorable as possible to their best development. In selecting a piece of ground for wheat, the two extremes of light sand and stiff clay should be avoided, and a good strong loam chosen. A clay loam is better than a sandy loam. Providence has given us abundance of the very best wheat-land in the world, but there are soils not so well adapted for it, whereon other products should be cultivated. Why fight nature when it is easier and better to act in harmony with her provisions and laws?

Another and most grievous mistake is attempting to grow wheat on poor land, land that has been exhausted by hard cropping. To grow this grain to the best advantage, even a suitable soil requires to be in a state of fertility. There should be abundant stores of both mineral and organic plant-food in it, and that too in an elaborated state, readily available for use. The soil should be mellow and well-pulverized, even the manures that are applied being reduced to the greatest possible fineness. This is best secured by letting it follow a root crop. In a well managed rotation, the place of wheat is next after roots. Nothing so completely mellows land, and so fines down manure, as thorough culture of a root crop. In this way, too, the land is cleaned of weeds, an important pre requisite for wheat growing. The root crop is to be heavily manured. Both turnips and wheat will show the good effects of it. So also will the succeeding yield of grass, for wheat is an excellent plant for seeding down with, and as it should be preceded by roots, it should be followed by grass. Wheat is an exhaustive crop, the most so of any crop grown on the farm, and it is the height of folly to sow it on poor land. A large proportion of the disappointments connected with wheat culture may be traced to this cause.

Insufficient preparation of the soil is a very common mistake in wheat growing. To obtain the best results, wheat ground should be well drained. It will not flourish on wet land. If there is stagnant water about the roots, the tissues of the plant become soft and watery, and though there may a great show of straw, there will be but a small yield of grain. If tile-draining cannot be accomplished, the next best thing is to loosen the subsoil with a subsoil plough. Many farmers hardly know the name or use of this implement—the more's the pity. The subsoil plough follows in the furrow made by the common plough, not making a second furrow, but loosening and tearing up the hard-pan, so that it will be light and open, admitting air, and giving free passage to moisture, in exhalation upwards, and in drainage downwards. When land is summer-fallowed for wheat, every effort should be made by repeated use of the harrow or cultivator, to destroy weeds, and to keep the soil mellow and friable. It should be ploughed in May to the depth of about eight inches, and the subsoil plough run down six or eight inches deeper. During the summer, an occasional harrowing or cultivating should be resorted to as a means of eradicating weeds. Then just before the time for sowing, the land should be re-ploughed with both common and subsoil ploughs. Let those who think this "overdoing it," fairly try the experiment of thorough cultivation and see whether the results do not prove that *it pays*.

It is a mistake in wheat culture to bury the fertilizing material deeply in the ground. We have known great pains taken to do this, and the consequence has been sad disappointment. The wheat plant inclines to spread out its roots horizontally near the surface of the ground, and that is where it should find a supply of nutriment ready for use. If the food of the young plant is deeply buried, its roots must alter their natural course and strike downward instead of spreading abroad near the surface. This is no doubt one of the chief causes of winter killing. The roots are torn and broken by the alternate processes of freezing and thawing. When the roots of the growing grain spread out horizontally near the surface, the expansion and contraction caused by freezing and thawing, affect the whole plant, heaving it bodily and letting it settle altogether, whereas when the roots are obliged to strike down deeply in search of nutriment, the changes of weather are felt only by that portion of the plant which is near the surface. The lower portion of the plant remaining firmly imbedded in the ground, when the top soil undergoes upheaval, the obvious result is destruction to part of the roots and the consequent weakening of the plant. It is well known that the best crops of wheat are grown on new land. The trees have just been chopped down, burnt, and the ashes distributed over the surface of the ground. In addition to this fertilizing material, there is the leaf-mould which contains an accumulation of choice plant food. It is impossible to plough the ground because it is full of green tough roots of trees. Hence the seed is "dragged in," *i. e.*, harrowed with an imperfect surface scratching. The roots of the wheat plant can follow their natural inclination under such circumstances, and spread out close to the surface of the soil which is richly stored with the best possible food. Have we not here plain proof that in order to successful wheat culture our fertilizers must be distributed at or near the surface of the soil? This is no argument for shallow ploughing. Stir the soil deeply, but let its treasures of plant food be near the top.

Broad-cast sowing is a mistake made by many. Drill-sowing is more economical, saving seed by its more uniform distribution, and lessening the liability of the young plants to winter-kill. There is a better and more even distribution of light and heat, and freer circulation of air,—important considerations in connection with the best welfare of the crop. It is not the least of the advantages of drill-sowing, that a little concentrated manure may be applied in the drill, the influence of which will be felt in hastening forward and strengthening the young plants.

It is a mistake in wheat culture to sow inferior seed. Indeed this is very foolish in regard to any and every crop. Like begets like. Weakness and disease are propagated in the plant world, very much as they are transmitted from parent to child in the world of human beings. The greatest pains should be taken to procure the choicest seed that can possibly be had. It will pay the farmer who depends on his own growing of seed, to cull out the best portions of a field, when there is perceptible difference, and devote them to this important use. Indeed it is a wise policy to select the earliest and finest heads, and from these grow seed. It is also well to obtain a change of seed from time to time, as successive sowing in the same soil and climate, seems to induce more or less degeneracy. The farmer should never grudge a little extra outlay in the purchase of choice seed. Such outlay is pretty certain to be well rewarded.

We have not enumerated all the mistakes that are made in wheat culture, but these will suffice for the present article, and others can be taken up hereafter.

Wheat and Oats Mixed.—The *Western Farmer* says:—The plan of sowing some oats with spring wheat has been practised to a considerable extent in some parts of Wisconsin, and probably more this spring than ever before. James Gillis, Cooksville, Wis., informs us that in his vicinity but little wheat was sown alone, most farmers sowing from a fourth to a third of a bushel of oats per acre with the wheat. The attacks of the chinch bugs are thought to be prevented to a good degree by this method. There is little difficulty in separating the wheat from the oats.