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NEW SERIES.

The Field.

Winter Wheat.

On most farms situated in the older settled districts of country bordering on our great chain of lakes, winter wheat will continue to be the great staple crop of the agriculturist. All the other operations on the farm are, or should be, directed towards preparing the land, by a proper course of rotation, to bear good crops of wheat whenever practicable. It is always a staple crop that in proportion to its cost gives a better return for the labour bestowed upon it than any other, provided a good crop can be secured.

We do not propose to give a long article on a subject that by this time ought to be pretty well understood by all intelligent farmers; but there are always some points connected with every matter pertaining to the farm that will bear discussion, and on which many may differ in their modes of applying theory to practice.

It is almost beyond question that a well prepared summer fallow makes the best preparation of the soil for winter wheat, and especially so on strong or stiff soils—heavy clays or rich loams—that contain a sufficient percentage of lime and phosphates. Where lime is deficient, it must be supplied in some form, either spread on the land at the rate of ten bushels or more per acre, and harrowed in just before sowing the wheat, or given in the form of superphosphate sown on the crop when it is well up, at the rate of from 100 to 200 pounds per acre.

The direct application of barn-yard manure to winter wheat is seldom advisable, especially if the manure is long and full of straw. It is better applied to a previous crop, or if that has not been done, it should be composted before applying to the soil, and either thoroughly incorporated with the soil by successive ploughings and harrowings before the wheat is sown, or, as has been done with success in instances that have come under

our observation, if it is so well composted as to be readily divisible, it can be applied as a top-dressing late in the fall, when it will act as a sort of mulch or protection to the young wheat from winter frosts, and all its best enriching elements are carried into the soil by the rains and melting snows. This plan is of the greatest benefit on crops of winter wheat that have been sown so late that the plants have not formed enough top to protect their roots during the winter.

Wheat likes a tolerably compact seed-bed, that is, one not too loose and porous, and if a little rough and cloddy on the surface so much the better. These little clods will gradually crumble down under the action of rain and frosts, and help to keep the roots from being heaved out. We often see that land has been made too fine on the surface by continual harrowing and cultivating, while at the same time it is very shallow below. This is due mainly to a habit many have of working their soil at one uniform depth, leaving a hardpan where the sole of the plough runs. Yet it is not advisable to make the soil too deep and loose for wheat, as if so done, the heavy fall rains compress the soil together very solidly. The English farmer avoids the two extremes by ploughing deeply in the fall before the land is to go in wheat, or with the previous crop. If it is in peas, which is commonly the case here in many sections, the land should be ploughed deeply, say ten inches, as soon as the pea crop is off; then cross ploughed to a depth of but four or five inches, and the wheat drilled in without harrowing.

It is of the first importance that land on which winter wheat is grown should be perfectly free from any liability to retain surface moisture. Neglect of this point is the cause of much of the loss from winter-killing. All cannot have their farms underdrained, though of course those who can afford the expense will be certain to get by far the best crops, other things being equal. How often do we see great pains taken in preparing the soil, and yet the finishing stroke, that of leaving

the land well dead-furrowed, so as to carry off all surface water, totally overlooked. This part of the work should be done after the seeding and covering has been completed, and where necessary in order to get a proper fall and outlet, deep furrows should be run diagonally across the field, and the earth thrown out levelled down with a hand-rake, so that water may run freely into them from the surface of the land.

Regarding the proper time of sowing there seems to be many differences of opinion among practical farmers. Many years ago it was usual to sow early, say from the 20th August to 5th September. In those days it was no unusual thing to see winter wheat a foot high or more in October, and as a result the crop was always early in maturing and gave heavy yields. This was in the palmy days of wheat-growing, before the advent of the midge, when the Red Chaff White, Blue Stem, and Soules held sway, and forty to fifty bushels to the acre was no uncommon yield. The destructive doings of the midge caused nearly a cessation of the growing of winter wheat, and many became careless about the matter; and of late years there seems to be a tendency to sow this important crop altogether too late; the consequence of which is a small growth of top by the time hard frosts come to stop vegetation, and the roots small, and ill able to retain their hold, have scarcely any protection whatever against the keen winter frosts, unless a covering of snow should chance to come early enough to save them. But the days of the midge we hope are gone, never to return. Then again, there is some risk now from the attacks of the Hessian fly and the wire-worm when winter wheat is sown very early; of late years, however, we have heard few or no complaints of these pests, though they doubtless still continue to prey upon the crop.

The amount of seed to the acre is very variable, according to the earliness or lateness at which it is sown. If sown early, so that there is time for the plants to taller out before hard frosts come, a moderate seeding is