

fears, and correct those errors on the part of many growers of wheat, which have so largely contributed to any loss which has arisen. In fact it very largely rests with each farmer to determine whether he will make himself safe or run the risk of a loss. A more perfect cultivation of the wheat crop may be regarded as the first and best protection against frost, or any other injury. By this I mean that the soil should be brought into a thoroughly friable condition—that a healthy, hardy, and quick growing seed of good and suitable quality should be sown—that early sowing and thicker sowing should be the rule—that the lands chosen for wheat should be free from the watery vapour arising from lakes and ponds—and that reasonable protection from strong winds should be provided. Each and all of these conditions are obviously desirable as a means for securing the most successful cultivation of wheat, and they constitute a chain of which it may be said, the weakest link indicates its strength. Whether there are frosts or not, these are the requirements for success. If they are adopted the farmer may be assured that he has done his part, and so far as he is personally concerned we shall hear no more of injury from the frost. But when a farmer has been content to sow his seed wheat upon a roughly ploughed turf which is as tough as a rope, or when he has even ploughed that turf over a second time, and left the soil beneath too hard for the roots of the wheat plant to enter, can it be any cause of wonder if that wheat crop makes a slow growth, and that it remains green and full of sap when it ought to have been cut, and ready for going into the stack. If, again, some farmers will continue sowing the seed wheat which year after year they have thus brought into a slower and still slower habit of growth, can it cause surprise that the crop does not ripen early. Nature has done very much for the Canadian North-West, there are soils there unequalled in the world, there are sunshine and warmth capable of aiding those soils to produce wheat of a most desirable character, but these advantages must be prudently used if we would secure the desired result. The fact that the soil and climate of the district so powerfully favour a rapid and perfect growth makes it the more necessary that we should give the wheat plant every chance for utilising these powers.

The selection of healthy, hardy, and quicker growing seed involves much skill and good management, but they will yield a rich reward. Here is a work in which I venture to believe the Department of Agriculture will soon take action. The commendable energy already shown by that Department is a guarantee that this also will be carried out. The fact is that much of the Red Fyfe wheat needs a prudent change of treatment to give it greater energy of growth, but let the wheat growers of Manitoba think well what they are about before they set that wheat aside. If the land is better prepared for the seed the Red Fyfe will have a better chance, and an improvement in the seed will soon follow. Early sowing is very generally acknowledged to be necessary, but it is not sufficiently recognised that thicker sowing equally saves time. If the seed wheat is sown moderately thin—say at the rate of from $1\frac{1}{2}$ to 2 bushels per acre—as soon as the young plant has fixed itself firmly in the soil, it commences throwing out a number of additional seed stems, and making a thicker plant. If that thicker plant is provided by a more liberal seeding it is more than probable that fully two weeks will be saved, and the crop will be ready for harvest that much sooner. I saw an excellent example of this on Mr. Jas. Findley's farm, on the north side of Shoal Lake. He sowed 3 bushels of seed wheat, and he not only reaped a crop of fully 45 bushels of first-rate wheat, but no injury was done to it by the frost, because it was two weeks more forward than other corn sown at the same time. The Hon. J. C. Aitkins, Lieutenant-Governor of Manitoba, also drew my attention to a case which came under his observation in 1884, in which fully 10 days had been gained by thicker sowing. Neither must we overlook the fact that the extreme fertility of these soils has rather a tendency to encourage a long continued growth of straw, and thus time is needlessly lost. Thicker sowing, however, tends to divert the energies of the plant in the direction for forming its seed more quickly, and it certainly favours an increase in the yield of the wheat crop.

Much that has been said respecting wheat culture applies equally to oats, barley, peas, and other farm crops. The bounties of Nature must not be made a cover for negligent arrangements, and the responsibility for success must in any case rest upon individual management, and not upon the country, for a proper rotation of crops, the use of suitable farm seeds, and a thorough cultivation of the soil, are most desirable even in this fertile district. In these various farm crops there is a steady increase, year by year. Thus, in the Province of Manitoba,