## Conditions in Red River Valley South of the Boundary Line.

The weather and crop conditions of the past season, throughout the upper Red River Valley, in the States of Minnesota and North Dakota, have been just such as have been experienced in Manitoba. Prof. T. A. Hoverstad, of the Dakota Experiment Station, writing in the *Student's Review*, reviews the situation and prints some lessons that may be taken home by us all:—

It is hard to conceive of a season that could offer a more encouraging outlook from the start than the present one did in the Red River Valley. The soil was in good condition to receive the seed, and the texture and the amount of moisture in the soil was nearly ideal, so all work could be done with ease and be done well. All seeding was done early and in the best manner. The weeds were easily destroyed, and the tillage of cultivated crops was done with no hindrance. All the early seed germinated nicely. All through the growing season the grain retained a healthy green color. When the spring was well advanced, and little or no rain falling, the growth of the grain was very much retarded. Many of the stools died. This left the grain short and thin. At one time it looked as though there would be almost no crop of any kind. Grass was too short to make hay at the time haying should have commenced. At this time the farmers became alarmed over the situation. The main cause of anxiety was the lack of suitable forage, and the "paramount issue" became how to provide food for stock during the fall and winter. This afforded an excellent opportunity for the introduction of a class of crops hitherto very little grown in the Red River Valley. Forage crops, especially corn, became very popular, and large fields were sown, and the value of corn to provide forage became apparent. By June 30th, rains began to fall and all crops revived. From that time on the temperature and the moisture was very favorable to the best development of grain. The wheat filled well, so the quality of the berry was good. In some places the fields were cut for hay, and some small areas were summer-fallowed, the farmer thinking that the amount of grain harvested would not equal the expense of harvesting and threshing. On many farms an average crop was harvested. From some localities very good yields are reported. The crop presented all conditions from utter failure to good yield.

Only small amounts are threshed yet, so average yield cannot be reported. On the Experiment Farm only the "plots" are threshed. In the rotation experiments, forty-three plots were sown to wheat this year. In these the smallest yield was 9.8 bushels per acre. The best yield is 32.7. The average is 22.5 bushels. The difference in the yields is due to the different crops raised on the plots during 1899. It may be of interest to report the yields of wheat this year as affected by the crop of the previous year grown on the same plot.

In the following table these results may be seen:

| Crop in 1899. | Crop in 1900. | Yield of Wheat in 1900. |
|---|---|---|
| Flax | Wheat | 12.3 |
| Barley | " | 19.1 |
| Oats | " | 20.7 |
| Wheat | " | 21.1 |
| Peas | " | 22.3 |
| Corn | " | 24.1 |
| Sorghum | " | 24.3 |
| Millet | " | 25.9 |
| Potatoes | " | 31.2 |

One of the drawbacks this season, besides the drought, was the weak chaff the straw had, so the grain was easily shelled. Thousands of bushels dropped from the heads before the grain was harvested. The heavy rains during the early part of the harvest delayed cutting very much, which made the damage from shelling larger than it otherwise would have been. The rains have also delayed threshing and much grain is damaged in the shocks and fall work is very much delayed.

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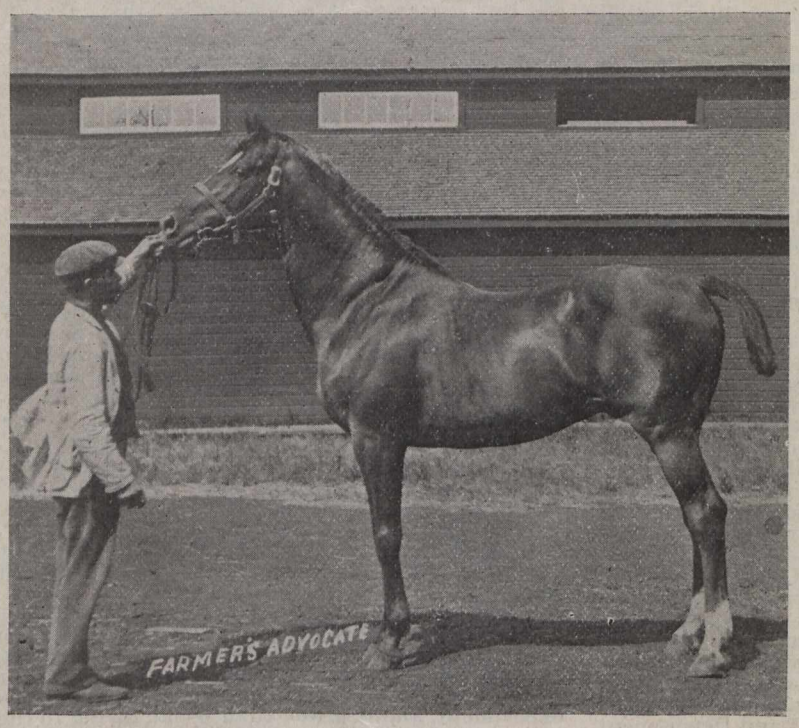
A larger variety of crops should be raised. The past season has shown that it is hazardous to depend too closely on one crop. While grain and hay crops were making little or no growth, cultivated forage crops seemed to grow very well. The nice fields of corn, sorghum, rape, millet, peas, etc., show that some crops can grow well when others fail. Besides this, the above table shows that a variety of crops may affect favorably future crops raised on the farm.

More live stock should be kept on the farms. It is encouraging to see that large numbers of pure-bred cattle are brought into the Red River Valley. When more stock is kept, better use can be made of the crops raised on the farm.




DERMOD.

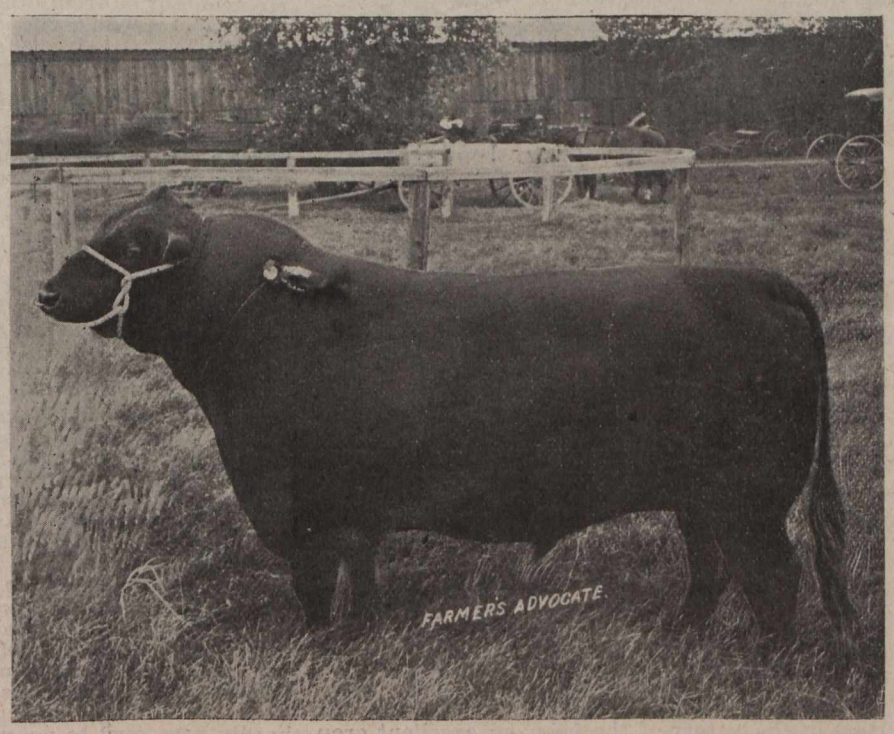
Thoroughbred stallion, winner of first prize and sweepstakes at Winnipeg Industrial and Brandon Exhibitions, 1900.

PROPERTY OF F. THOMPSON, M'GREGOR, MAN.

## The Falling Leaves.

The autumn season, which ends with the fading and falling of the foliage that has during the summer months rendered the forests and orchards beautiful and fruitful, is apt to bring to many minds a sense of sadness akin to melancholy, a feeling caused doubtless in some degree by a consideration of the analogy which the brevity of human life bears relatively to the term and fate of the leaves as expressed in the Scripture phrase, "We all do fade as a leaf." An intelligent consideration of the agency and functions of the leaves in the economy of nature will tend to dispel that feeling. Botanists tell us that the leaves of the tree are to its existence equivalent to the lungs in animal life; that they are the breathing apparatus of the tree or other plant, which gather from the atmosphere the gases that are so largely instrumental in sustaining life and imparting health and vigor to the living subject, and that the influence and effect of the work of the leaves of each succeeding year in the life of the tree is seen not only in the increased size and strength of the tree, but is also plainly visible in the construction of the substance of trees, as seen in the rings or circles readily traced in a transverse section of the tree when cut across its full diameter, by which it is claimed its exact age may be computed. But we are told that evidences of the influence of the leaves is not confined to those above indicated, but that they impart their life to the formation and feeding of the germ of the succeeding leaf, so essential to the life of the tree during the following spring and summer seasons, and that before the leaves in autumn drop from their place the genesis of the future leaf is an actual fact visible to the careful observer, and has acted a part in removing the old leaf from the stem or from the branch. The usefulness of the leaves does not even end with their fall, as in normal conditions they serve as a mulch to the roots of the trees, protecting them from the effects of severe frosts in winter and protracted droughts in summer, besides enriching the soil for the future growth of the tree by nature's favorite method—the surface application of fertilizers in the form of humus or decayed vegetable substances. That the influence of the life of the leaf does not even end with the processes thus far outlined is attested by scientists, who claim that the vast deposits of coal in the bowels of the earth, from which are drawn the supplies for heating our houses and generating the steam and electric power which drives the machinery and commerce of the world, are but the result of the disintegration of wood and other vegetable matter accumulated during the millions of years of the earth's existence, and which at one time were nourished by the leaves of trees appropriating the sunbeams, imparting them to the substance of the trees and handing down to succeeding ages the comfort and help which we derive from the dusky diamonds which come to us from the coal mines in this stage of the history of this old world.

Should not a true appreciation of the lessons taught by the history of the unconscious leaves lead us to a contemplation of the possibilities of the influence of conscious human life, with its numerous opportunities for usefulness and helpfulness, the influence of character upon ourselves and its reflex influence upon those with whom we associate in the varied relations of life, impress upon every mind a deep sense of the responsibility that attaches to a human life? If the influence for good of an insensate leaf may extend through untold ages, what limit can be placed on the favorable influence upon succeeding generations of a well-spent rational life, with the advantage of all the supreme gifts with which it is endowed, its capabilities of acquirement and development, and in view of the illimitable future of an immortal being? A proper conception of the importance of the privilege of living in the present age, under such free institutions of government as are enjoyed in Christian countries, would seem to be to regard life as a luxury, to be grateful for existence, and to cherish high resolves to make the best possible use of its opportunities, so that whether the falling of the leaf or the end of the term of earthly life comes soon or later its work in both moral and material lines may have been well done.




KYMA'S HEIR.

Aberdeen-Angus bull, winner of first prize and championship at Toronto, London and Ottawa Exhibitions, 1900.

PROPERTY OF JAMES BOWMAN, GUELPH, ONT.

## Regina District.

Gradually the heavy, stiff clay banks surrounding the Territorial capital at Regina are being brought under the plow. Most of the land has within the past year or two been taken up by actual settlers, and in a few years more this erstwhile barren plain will be pouring its golden grain into the Regina elevators. A few miles to the west and north, where the soil is lighter and not so tenacious, in the Cottonwood, Lumsden and Boggy Creek districts, the land is already nearly all under cultivation, and even this year can boast of some splendid crops, numbering from fifteen to twenty-eight bushels per acre, and most of it of good milling quality. Showers favored this strip of country in the early season, and the harvest weather, although not good, was nothing like what was experienced further east, in Manitoba. Evidences of prosperity meet one on every side. Big stock barns are going up and preparations being completed for rotating with grass and feeding stock to utilize the grass and roughage and to make manure. Near the Cottonwood, the Mutch Brothers have fine barns in which they feed a large number of steers every winter. They have now 160 acres seeded down to Brome, and soon intend to fence. This summer, Mr. Kinnon, Sr., and his son, George Kinnon, have just completed fine stone-foundation barns, and there are many others. These barns and the substantial houses that are going up, together with many other evidences of home-making, give an air of permanence and thrift to a district that enhances the value of every acre.