keep all stock off the pasture land until there is something worth while there.

Later in the season, too, there is danger of damage by pasturing so close that it requires weeks to have the crop again make a start. Many farmers now have two or more pasture areas and change the stock from one to the other at regular and frequent intervals, whether the grass is done or not. Moreover, they also provide some fodder crop, such as corn, rape, millet or late sown grains to meet requirements late in the season when pasture lands have dried up.

Canadian Wheat and Flour Exports

Exports of wheat and flour, the produce of Canada, have increased very greatly since 1900. Beginning in 1900 with a value of $14,787,373, representing 20,365,392 bushels of wheat, which includes flour expressed in terms of bushels of wheat, these exports have increased with a fair measure of regularity, until, in the fiscal year ending March 31st, 1909, they amounted to a value of $56,139,355 from 57,103,457 bushels of wheat (flour included) exported. This is the highest mark yet reached, both in bushels and value. It will be noticed that values have increased more than bushels, on account of rise in prices. While the number of bushels exported increased to nearly threefold, the value was almost four times as great in 1909 as in 1900.

A small percentage of these exports is sent to the United States. A considerably larger protion usually goes to other countries not including Great Britain, but Great Britain receives, on the average, nearly 90 per cent. of the whole.

North Dakota Demonstration Farms

The Red River Valley in North Dakota was settled in the late seventies and early eighties. It was almost immediately put under the plow. The harvests were very abundant, the average yield of wheat being between 25 and 30 bushels per acre, and 40 bushels was quite common, even on large areas. During the first ten or fifteen years all the farmers had to do was to seed wheat in the spring, cut it at harvest and prepare the land for another crop of wheat. But as time went on many weed pests were introduced, such as yellow mustard, French weed, Canada thistle, sow thistle, wild oats and quack grass. The fungus diseases which cause smut, rust, root blight, etc., became more prevalent each year.

These enemies of the wheat plant were reducing the yield from year to year until 1905, when the average wheat yield in the Red River Valley was not more than half what it had been when the land was first cropped. The United States Government Experiment Station had been running at Fargo since 1891, and had accumulated some very valuable data on how to keep up wheat yields, eradicate weeds and increase soil fertility. Many of the farmers of the state were making use of this information and some of them were growing as large crops of wheat as they did when the land was first broken up. But such farmers were the rare exception, as the great majority of farmers were still using the single crop system with less and less profit as time went on.

In order to remedy these conditions in the older sections and to prevent their occurrence in the newer sections of the state, the authorities of the Government Experiment Station determined to establish a system of demonstration farms that would embrace every county in the state.

Six of these farms were established in the spring of 1906 in as many different counties. The wheat crops produced on these farms that season were considerably above the average of the surrounding farms. The farmers in the vicinity of each demonstration farm watched these experiments very closely, and they were very quick to copy methods that were to their advantage. Each year the crops on these farms became much better; the past season the wheat yields on the original six farms averaged over 26 bushels of wheat per acre, and no field fell below 20 bushels per acre. Only the best pedigreed seed wheat, oats, flax and barley are seeded upon these farms. The following year the manager of each farm seeds his own farm with the seed grown upon the demonstration farm plots. His neighbors from far and near want some of this seed for their own farms, as they can readily see it is pure and superior to scrub varieties so generally grown. In this way each demonstration farm rapidly causes the farmers in its vicinity to quit growing scrub grains and grow the best pedigreed varieties instead.

The eradication of weeds is a vital problem in nearly all sections, and this is taken in hand on these farms. Land that is infested with annual weeds, such as yellow mustard, French weed, pigweed, sunflowers, false flax, shepherd's purse, etc., is harrowed frequently in the spring to start all these weed seeds that is possible. Later applications of the harrow kill the young plants that have germinated. After the grain is up the weeder is used at intervals of seven to ten days, destroys nearly all the weeds that have previously germinated and causes still others to germinate. In two or three years, fields that are badly infested with such weeds as yellow mustard, French weed and shepherd's purse have become practically free from these pests by this method alone, but particularly if what few plants escape this treatment are pulled before they go to seed. When the farmers in the vicinity of a demonstration farm see such simple methods as these so practical they immediately begin applying them to their own farms.

Wild oats are not planted in any seed and all that are in land are prevented from going to seed in such crops as corn, winter rye and late barley. These crops are followed one after another, and as wild oats seed will not stay in the ground more than three years without being destroyed, this pest is readily controlled by this means. Canada and sow thistles are cut in a hay crop (generally oats and peas), when in blossom about July 30. The land is then immediately plowed and all thistles are kept below the surface of the soil for a month by means of frequent cultivation. About September 1 winter rye is sown at the rate of 1¾ bushels per acre. The next year the rye is cut in mid-July, when thistles as have survived the former year's adverse treatment are again at their weakest. The land is immediately plowed and no green shoots are allowed above the surface of the ground during the remainder of the season. By these means practically all these pests are destroyed and a paying crop is produced each season. These methods of eradicating wild oats, Canada thistles and sow thistles are also very quickly taken up by the farmers who see such methods worked successfully.

In the new sections of the country the new settlers have to learn many things, as the agricultural methods are generally quite different from what they have left behind. The new country always has a great many new problems for the settler to solve, such as the best time and depth to break the sod, the best crops to seed and the rate to seed per acre. The new settler wants to know the best methods of conserving soil moisture in his fields—on this alone may mean his ultimate success or failure. He wants to know what forage crops, such as alfalfa, corn, clover, brome grass and timothy will do well. As a rule, he has but little money, little experience, and a large family to support, so he cannot make these experiments for himself. The state, by means of demonstration farms, can answer all these questions for the new settler in such a way he cannot fail to understand the answer.

The local papers always like to receive and print any material on their demonstration farms. If this is well written up and contains practical suggestions for farmers in the community which have been worked out by the experiment stations, it places such facts where they will do the most good, as few farmers fail to read their local papers.

The first six demonstration farms established in North Dakota have proved so practical in bettering farming conditions generally, that the number has been increased to twenty-one, and several more are being put in operation this spring.

W. R. PORTER,
Superintendent.

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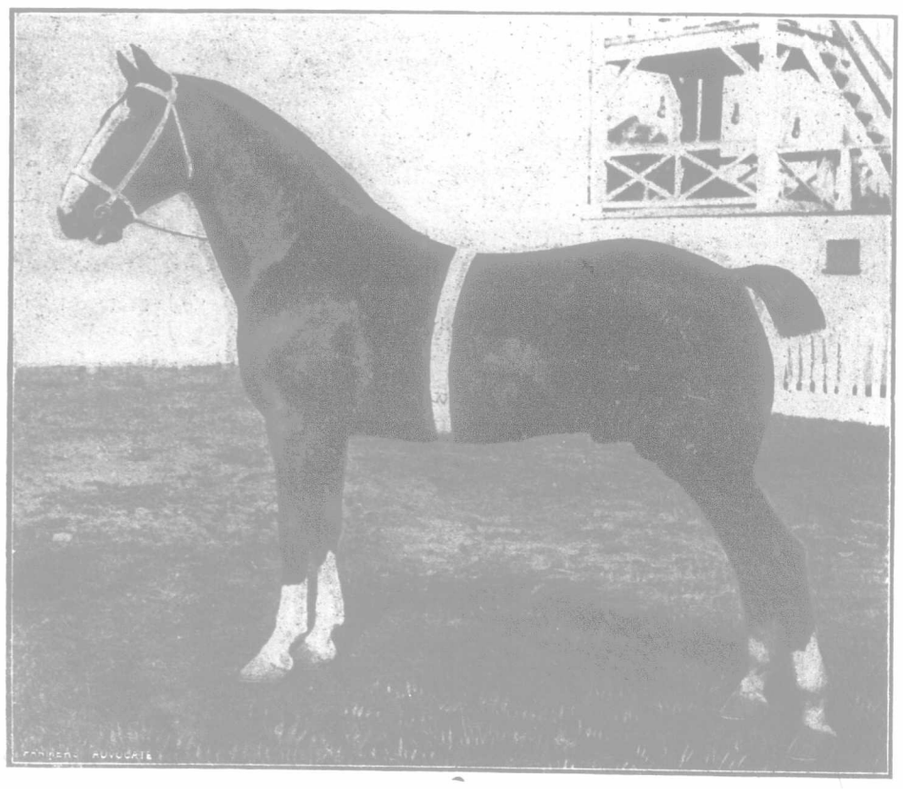
A new collar should lie in water till thoroughly soaked before it is put on, and then it will shape itself to the shoulder. Where changing from pads to naked collars, it might be well to change during the slack time so that the shoulder may toughen before getting sore. A collar should always be hard, never soft.

* * *

An officer of the Royal College of Veterinary Surgeons says it is easy to tell a horse's character by the shape of his nose. If the profile has a gentle curve, and at the same time the ears are pointed and sensitive, the animal may be depended on as being gentle, and at the same time high spirited. On the other hand, if the horse has a dent in the middle of his nose it is safe to set him down as treacherous and vicious. A horse with a slight concavity in the profile will be easily scared and need coaxing, while one that droops his ears is apt to be both lazy and vicious.



CHAMPION HACKNEY IN ONTARIO—AT REST.