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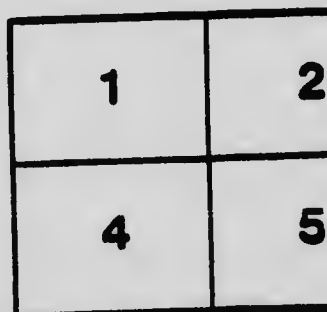
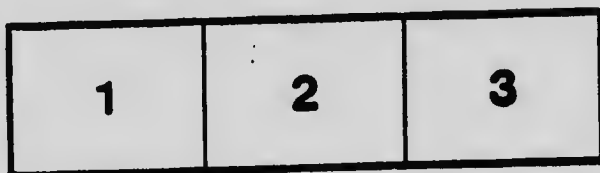
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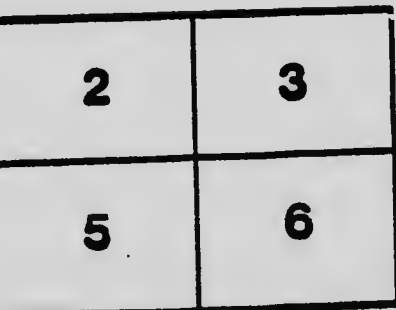
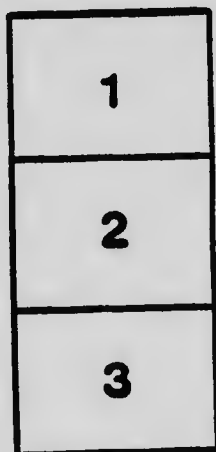
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AWNLESS BROME GRASS VERSUS WESTERN RYE GRASS

BY

M. O. MALTE, Ph.D.

From the very beginning of the work so successfully carried out by the Experimental Farms and Stations in the Prairie Provinces, the forage plant question has been most carefully and laboriously studied. In the early days of the history of the western Farms much stress was laid upon the effort to discover high yielding grasses and leguminous forage plants suitable to the peculiar conditions of the West. Hundreds of experiments were conducted with a view of testing the relative value and general suitability of a very great number of fodder and pasture grasses grown successfully in different parts of the world. Most of the grasses thus tested proved, however, to be of little value because of their being unable to adapt themselves to the climatic conditions. The scanty rainfall proved insufficient to many of the grasses which, in Eastern Canada or on the coast of British Columbia, were growing most luxuriantly, and to others the cold winter proved fatal. At last, after long and indefatigable investigations two grasses were found that possessed the necessary qualifications, viz., resistance to drought and severe cold, excellent yielding power and high nutritive value. These promising grasses were Awnless Brome grass and Western Rye grass.

AWNLESS BROME GRASS.

This grass is a native of central Europe and Asia and occurs naturally in countries where the climatic conditions are quite similar to those of Western Canada. It is especially valuable where changes in the temperature are sudden and great, as for instance is the case in Hungary and certain parts of Austria. Its extensive cultivation in these countries accounts for the names Hungarian and Austrian Brome grass, which names are often used in Canada.

In the wild state it generally grows in dry, gravelly soil or even in pure sand where most other introduced fodder plants perish from lack of moisture. This ability to thrive in soil where the supply of moisture is scant makes it especially valuable for those parts of Canada where the rainfall is light.

As soon as introduced into the Prairie Provinces it also promised to be of universal value as a forage grass, and especially suitable for pasture.

It starts early in the spring, and is fit to pasture earlier than any other grass. It keeps on growing during the whole season, producing an abundance of food of high nutritive value, relished by all kinds of stock.

DOMINION EXPERIMENTAL FARMS.

J. H. GRISDALE, B.Agr.,
Director.

M. O. MALTE, Ph.D.,
Dominion Agrostologist.

EXHIBITION CIRCULAR No. 10.

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Its suitability as a pasture grass depends upon two factors, viz., its rapid growth and its ability to stand tramping without being injured. The latter quality depends largely upon the peculiar formation of the root system, which is much like that of Couch grass. The underground system consists of a large number of vigorous runners which develop in all directions, grow rapidly, and constantly produce new leaves and stems. On account of the growth of these runners the Brome grass soon forms a dense sod and thickens up considerably. With the thickening up the straw becomes slender and the whole plant finer in texture.

The analysis of the grass as reported upon by Dr. F. T. Shutt, the Dominion Chemist, shows that it is rich in protein and at the same time comparatively low in fibre.

On the whole it has proven to be one of the most valuable of the introduced grasses, not only because of its luxuriant growth, its earliness, heavy aftermath and hardiness, but also because of its high nutritive value.

The Awnless Brome grass has, however, also its drawbacks. As indicated above, its underground system of creeping and widely growing runners makes it quite similar to Couch grass. When once introduced into a field it will, therefore, sometimes be hard to eradicate. This is especially the case in rich, loamy soil. In poorer and more sandy soil the danger of Brome grass becoming a troublesome weed, hard to eradicate, is, however, less pronounced, and in such soil the perfect eradication of the same can be easily effected.

For the reasons just mentioned, the Brome grass can be recommended for light soil only.

WESTERN RYE GRASS.

As indicated by its name, the Western Rye grass is similar to the so-called Rye grasses of Europe, including English or Perennial Rye grass and Italian Rye grass. The European Rye grasses which, especially in the countries surrounding the North sea, are of immense importance as hay and pasture grasses, can, however, not be grown successfully in the Prairie Provinces. They are altogether too tender, and even the English Rye grass, which is the hardiest, is not able to endure the hardships of the winter in most parts of the prairies.

The Western Rye grass is a native of North America, ranging from the Atlantic to the Pacific. In Canada it grows naturally from Nova Scotia to British Columbia, and is, therefore, a grass which can adapt itself to widely different climatic conditions. As its name indicates, it is especially common in the most western parts of North America, its range extending from the dry belts of British Columbia to New Mexico and Southern California.

Western Rye grass makes a splendid growth even where the amount of water available in the ground is rather limited, and is able to endure rather severe and prolonged drought without being seriously injured. This depends, among other things, upon the fact that the root-system is very strong and that the roots penetrate the soil to a rather great depth.

Western Rye grass being a native of Canada, there is no danger of it being injured by severe cold.

Another good quality which makes Western Rye grass a most valuable grass in many localities is its faculty of thriving in a soil holding a considerable amount of alkali.

Strange to say, the Western Rye grass is very closely related to Couch grass, in fact so closely that it used to be considered a mere variety of the same. It differs from Couch chiefly by lacking the underground runners which make the latter .. troublesome weed. It therefore does not grow in loose mats like Couch grass but in rather dense tufts with crowded stems and shoots. Its tuft-forming nature is especially well developed in the driest parts of Western North America, where it is one of the principal so-called Bunch grasses.

Western Rye is preferably a hay grass and yields a large crop especially in rich, deep soil. On dry and sandy land the yield is naturally smaller but can be much increased by careful irrigation. Under favourable conditions its average yield of hay almost equals that of Awnless Brome grass.

As a pasture grass it is, however, decidedly inferior to the Brome grass, principally because the second growth is small and develops rather slowly.

SUPERIORITY OF WESTERN RYE GRASS.

A superficial comparison between Brome grass and Western Rye may seem to indicate that the former grass is somewhat superior because its yield generally is larger and because it is better suited for pasture.

The general superiority of Brome grass is, however, greatly offset by its couch-like mode of growth. The difficulty to eradicate it often gives it the character of a weed that should be guarded against. This is especially the case in rich soil. In such soil the Western Rye is decidedly preferable, especially when a crop of hay is looked for. It is also to be preferred on irrigated soil.



