

1 GEORGE V., A. 1911

grain from this field is submitted. The excellent sample of Marquis wheat grown at Indian Head will constitute the larger part of the wheat of this variety to be distributed this year.

This (showing another sample) is an early form of the Red Fife known as Early Red Fife. It is not quite so early as Marquis, but is from four to six days earlier than the ordinary Red Fife. These are the two most interesting varieties being sent out this year. A sample of Marquis is also here submitted which was received from Fort Vermilion, on the Peace River, Alberta, where a plot of this wheat gave a yield at the rate of 40 bushels per acre, weighing also 65 lbs. per bushel. Last spring 2,112 samples of 5 lbs. each of Marquis wheat were distributed free by mail, and a limited quantity sold in lots of from two to five bushels each. The distribution this year will be larger and will provide seed sufficient for sowing a considerable area in the Northwest next year. The demand for the Marquis variety is large this season, and I fear it will be quite impossible to meet all the requests.

'DRY-FARMING.'

The great drought which prevailed during the past season over a large part of the Canadian Northwest has led many farmers to pay more attention to what is known as 'dry-farming,' and to treat their lands in such a way as to conserve the moisture. In the discussion of this subject the field of view occupied is not always broad enough; the annual precipitation is sometimes the only feature taken into account. There are other factors which should be considered, such as the seasonal distribution of the rain, the rate at which the rain is precipitated, the kind of soil on which it falls and the loss of water through surface run-off. The amount of loss from evaporation will depend largely on the way the soil is worked.

Roughly speaking, 'dry-farming' is usually considered to be adapted to those regions where the annual rainfall is more than 10 and less than 20 inches. This, however, is only a rough approximation, and it is quite impossible to say where ordinary farming methods should give place to those known as 'dry-farming' methods. 'Dry-farming' is usually understood to mean the adoption of those practices which result in the conservation of moisture.

The method of alternate cropping and summer tillage, known as fallow, is generally recognized to be the most highly developed and successful 'dry-farming' method. This, however, admits of only one crop in two years, and this practice is usually confined to those districts where the yearly rainfall is very light. Where the total precipitation is greater, the plan is usually followed of growing two grain crops in succession, one on fallow and the other on stubble, followed by a season of fallow. In this way the farmer takes from his fields two crops of grain in three years. The good results had from this method have been thoroughly demonstrated at Indian Head, Saskatchewan, by Mr. A. Mackay, who originated this practice, which has been operated for many years in that district. It has been claimed and, I think, with good show of reason, that by ploughing for a fallow in June and the proper use of cultivators and packers throughout the summer, about one-half of the moisture which falls on the fallow during the season may be conserved in the soil and carried over and utilized by the crop the next season. Further, the cultivation of the surface cleans the land from weeds.

The fall of every inch of rain adds to the moisture in each acre 112 tons of water of 2,000 lbs. each. After a heavy shower, if a cultivator can be promptly used, the surface is scratched and loosened and a 'dust-blanket' formed which prevents much evaporation. This practice, associated with the use of a packer when needed to firm the soil, and fallowing the land every second or third year, constitute the main features in connection with 'dry-farming.' But, as conditions vary in almost every district, no