# DRY FARMING CONGRESS

The fourth annual Dry Farming Congress of America held at Billings, Montana, October 26 to 28, inclusive, was largely attended and important addresses were delivered by well known authorities on dry land farming, officials of the government of Canada, United States and Mexico, railway presidents and farmers from every section of the country where dry farming is carried on. A commodious theatre was used to accommodate the delegates and it was crowed each day of the session. The program arranged was so crowded that it was almost impossible to keep up with the arranged order of things, but everything passed off harmoniously despite the warm debates that ensued over the proposal to change the name of the organization, and the rather bitter address delivered by Louis Hill, president of the Great Northern system.

One of the important speeches of the congress was made by James J. Hill. Mr. Hill's address covered much the same ground that he has gone over on previous occasions when discussing the trend of agriculture and the need of better farming methods. This time, however, he was more optimistic, predicting that the introduction of the dry farming system into the country lying between the Rockies and the coast range of mountains, as well as that part of the United States within the dry belt and not accessible to water for irrigation, would soon develop it into one of the most productive wheat growing areas south of the Canadian prairies.

### IMPORTANCE OF DRY FARMING TO ALBERTA

This was a paper read by Geo. Harcourt, B. S. A., Deputy Minister of Agriculture for Alberta, who after conveying to the congress the greetings of the farmers of Western Canada, said : It is hard to understand why the Canadian prairies should have lain so long before their value was recognized. It can only be accounted for on the ground that an Allwise Providence was holding it in reserve for an expansion area for the land-hungry from the over crowded countries of to-day. At any rate it has remained for the present generation to develop and appreciate the agricultural value of the immense extent of prairie land stretching for nearly a thousand miles from the Red River Valley to the Rocky Mountains. It is true it is a land of comparatively light rainfall, and it is properly classed a semi-arid district. It is equally true, however, that to-day the desert visions which the term semi-arid calls up have long lost their power to frighten the intelligent settler. On the contrary, it means a delightful climate with ample rainfall during the growing season which if properly conserved by scientific soil culture spells successful crops.

It has taken time to solve the first principles and arrive at general conclusions concerning soil moisture on the Canadian prairies. The rainfall varies from ten inches in years of light rainfall to as high as nearly thirty inches in years of heavy rains. Even those amounts vary from differences in local situations. The mean average for Alberta for a period of thirteen years is 17.47 inches. As over 60% of the annual precipitation falls during the months of May, June and July, crop failures need not be looked for if proper methods of tillage are followed. Much of the discouragement met with in the early settlement of the country was due to the ignorance of the settler concerning soil moisture and the relation it bore to successful crop raising. The same is equally true of the average new settler to-day, but the accumulation of knowledge on the subject is now such that no man need remain long in ignorance.

The early settlers found that after a few years of continuous crop growing the yields were greatly diminished. They naturally concluded that the land required a rest and resorted to summer-fallowing whereas the trouble was one of moisture rather than fertility. In many instances where the summer-fallowing was done unknowingly in such a way as to conserve moisture, the yields were satisfactory. In other cases where it had been done to conserve moisture the results were disappointing through not doing the right thing at the right time. In other cases, again particularly on land containing a very large amount of humus, summer-fallowing resulted in the loss of the crop the following year through excessive and prolonged growth. This is particularly true of the Edmonton district in central Alberta. In spite of adverse results, however, the farmer's adherent faith in the efficaciousness of the summer-fallow as a soil renovator was so strong that the practice of allowing the land to lie fallow every few years became general. It was followed blindly without definite knowledge of why it was done. It was a common practice in older countries and it was presumed that it was necessary here; besides, were not the Jews of old commanded to let the soil rest every seventh year ? So the work went on in an unthinking way.

Gradually the idea grew that the soil needed humus, and consequently many farmers allowed a great crop of weeds to grow and sap all the moisture out of the soil before they plowed it down, in the mistaken idea that they were adding vegetable matter to the soil and thus improving it. Others set out to use the summer-fallow as a cleaning method. Where wheat was grown after wheat continuously for years it was soon found that the weeds gained headway and that a properly worked summer-fallow with its store of moisture was a good place to germinate and thus destroy many successive crops of weed seeds.

In this way our knowledge of the uses of a summer-fallow has steadily widened; but it remained for the experimental stations to give our increasing knowledge a twist in the right direction in the evolution it was undergoing. Particular credit is due to Angus McKay, Superintendent of the Experimental Farm at Indian Head, Saskatchewan, for his correct thinking and consequent experimental work on the summer-fallow. Realizing from his meteorological records that the rainfall was much lower than he had expected, he adopted a plan of summer-fallowing every alternate year, thus accumulating the rainfall of one year to add to that of the year the crop was growing. In this way his yields of grain greatly increased. He was able to secure up to 50 bushels of wheat per acre, and 75 to 120 bushels of oats, while his neighbors were obtaining only from 15 to 25 bushels of wheat, and 25 to 40 bushels of oats. Adding together their yields for both years he was still ahead of them and had only one crop to handle. His plan of summer-fallowing alternate years has been fairly well followed, only a great majority of the farmers think one year in three often enough to fallow.

This plan of summer-fallowing has been of inestimable value to Western Canada, but it is weak in that too many farmers have loose ideas as to what constitutes a properly worked fallow to at all adequately conserve the moisture. The fact is that few of them have got the right idea about conserving the moisture, the necessity for doing so or the importance of it; neither have they realized the inherent value of a properly worked fallow for weed destruction. The fact is that too many go through the process of summer-fallowing without knowing what they are doing, or why they are doing it.

The farmers of Southern Alberta made a great step in advance in their conception and understanding of this moisture question when they came to study dry farming methods. The Government of Alberta were successful in securing the services of H. W. Campbell, of Lincoln, Nebraska, to hold a series of meetings in the province. This he has done two years in succession. His talks on the importance of soil moisture and his advocacy of the sub-surface packer as a means of securing a greater retention of moisture, have been the means of putting the farmers in possession of a more intelligent idea of what is the right thing to do. So much so is this true that I have heard farmers say that farming was no longer an uncertainty in the extreme south of the province, provided proper attention were paid to securing a store of moisture in the soil. This passing from an uncertainty to a certainty means that instead of the farms being only temporary stopping places until their owners had made a little money, they are now becoming permanent owners with all the comforts that the home-loving and home-making Anglo-Saxon can obtain.

To further extend the knowledge obtainable of dry farming methods the Government have arranged with H. W. Campbell to establish a demonstration station in the province at Medicine Hat, where his work in scientific soil culture may serve as a permanent object lesson of what can be accomplished and a constant incentive to excel.

Our knowledge then of the proper methods of soil culture has steadily advanced from the haphazard methods of the poorly worked summer-fallow to scientific tillage, done in a certain manner with a definite object in view. The writer has long held that the conservation of moisture was the most important question that the farmers of Alberta had to study. Once this is mastered, crop rotation, destruction of noxious weeds and kindred questions all fall into line of their own accord. Once the principles of soil culture, as they apply to semi-arid countries are grasped and their application understood, the returns appear to be limited only by the faithfulness with which they are applied. Under an indifferent application of these principles, Alberta farmers have had no trouble in obtaining forty and fifty bushels of wheat, both spring and winter, and even over sixty bushels have been obtained. With more intelligent cultivation the Alberta dry farmer always has the goal of still higher yields before him.

What I have said so far has particular reference to the extreme southern portion of the province which is almost wholly open prairie. Central Alberta is a park country, and the soil contains a very large amount of humus. Owing to the presence of this humus and to the ameliorating influence on the climate of the trees, the soil is much more retentive of moisture and consequently the necessity of following closely the principles of dry farming are not so necessary. While there is practically no appreciable difference in rainfall, the farmers of central Alberta will find it to their advantage to pay considerable attention to dry farming principles.

In closing let me with the Dry Farming Congress Godspeed. It has already spread the gospel of scientific soil culture through many states and countries, and it is receiving careful consideration at the hands of farmers in humid districts. It is not that the principles are new or different from those many of us have studied under humid conditions, but the dry farming farmer has pushed the application of them a step or two further toward their logical conclusion. In the pursuit of the attainment of greater perfection in the application of the principles of dry farming and a deeper study of these principles I wish the members of this Congress every success.

Professor J. H. Sheppard, of the North Dakota Experiment Station, in describing the progress of dry land farming in his state, said that there were now twenty-one demonstration farms, the majority of which were in dry land districts. The operation of these farms was proving a splendid object lesson, to farmers on adjacent land as well as to others who visited them, or adopted the culture methods advised in the literature sent out from the various stations. He believed that these farms were increasing the per acre yields of the districts in which they were situated by from 50 to 100 per cent.

Prof. Sheppard ventured the opinion that the demonstration farm is one of the greatest of educational features. In his own state it was proving such and in other sections of the United States and in Canada the same satisfactory results from the establishment of such farms were being obtained.

Prof. B. Youngblood, special agent in charge of farm management investigations in Oklahoma and Texas, United States Department of Agriculture, spoke on "Some Factors in the Development of Dry Land Farms." He said in part : "The principles of farm economy apply alike to the dry land farms and to farms in the humid region, yet, on account of the conditions of soil, climate, population, market facilities and formativeness of the semi-arid region, it is not always easy for the farmer hailing from the east to make proper application of economic principles in the west, from the start. Unlike the humid region where the lack of capacity and industry may be overcome in part by the productiveness of the soil, the dry land farmer must be industrious and possess an ability to manage well the affairs of his farm. He must not only know how and when to plant and plow, but he must do these things when they ought to be done, for certain days lost often mean the loss of the crop.

" It means, then, that the following are the factors that determine success in dry land farming :

" 1. An arable soil.

" 2. Buying the right sized farm at the right place. It must be at least large enough to support a family.

" 3. Conservation of rainfall by appropriate methods and tillage.

" 4. Ample and appropriate farm equipment for the region of the means of procuring it.

" 5. The means of existence until the farm begins to yield an income.

" 6. An appropriate system of farming."

These were among the most important of the addresses delivered, not by any means them all, but sufficient to give a general idea of the scope and intentions of the congress. In addition to the addresses, interesting displays of products of dry farming districts completed what was probably the most successful Dry Farming Congress yet held in America. The only difference of opinion that arose between those prominent on the speaking list, came when the proposal was made to change the name of the organization, it being claimed that the word "dry" was misleading and damaging to the settlement of the country. Louis Hill was leader in the fight to change the name, but the proposal was voted down by a two to one vote, and the organization stands as the International Dry Farming Congress.

Hon. W. R. Motherwell, Minister of Agriculture for Saskatchewan, was elected to the board of foreign vice-presidents, and Geo. Harcourt, Alberta, member of the executive committee. The president for the ensuing year is Hon. F. W. Mondell, Wyoming, U. S, A.

As it is impossible to publish here anything assuming to be a complete review of the addresses delivered at this meeting, those interested are advised to communicate with the secretary of the Congress, J. T. Burns, 407 Temple Court, Denver, Colorado. Reports of proceedings are sent free to members, or may be obtained in book form at a nominal figure.

## Dominion Grange Meets in Toronto

The annual meeting of the Dominion Grange will be held in Toronto November 24 and 25. The meeting will be of special interest; (1) Because of the presence of delegations from farmers' organizations in the west to discuss a linking up of the Grange with these organizations; (2) because of the proposal suddenly put forward to saddle Canada, without the consent of her people, with the cost of a navy. R. McKenzie, secretary of the Manitoba Grain Growers Association, will be one of the delegates from the west. It is expected that the Grange will put itself on record as opposed to the scheme of naval construction proposed by the Federal government, and will urge by resolution that the government secure a mandate from the people before committing the country to the enormous and never ending expenditure involved in the construction of a navy.