

The Farmer's Advocate and Home Magazine.

THE LEADING AGRICULTURAL JOURNAL IN THE
DOMINION.

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National Dairy Council.

The report of the First Dominion Dairy Conference, which appeared in our issue of December 5, reviewed the first definite steps taken toward the formation of a National Dairy Council for Canada. Provisionally, the organization of the Council is already an accomplished fact, with a President from Ontario, a Vice-President from Manitoba, an Eastern Executive of five men, a Western Executive of four men and an additional twenty-five members representing every branch of the dairy industry, including milk distributors and manufacturers of butter, cheese, ice cream and condensed milks. It still remains for the eighteen organizations from which these members are drawn, to officially provide for their representation on the Council and for the Council to provide itself with a Constitution and By-laws as well as to arrange the matter of finances. With regard to the latter matter we consider it very regrettable that, to bring all the provinces into line, it should have been found necessary to ask the Dominion Government for a grant of \$5,000. Very happily, the majority of those directly concerned seem to be strongly against Government support and in favor of strict independence, certainly the most progressive attitude. We hope all such requests will cease with the initial one. A policy of continued assistance to agricultural organization is quite contrary to growing public opinion, especially in Ontario and the Western provinces.

The National Dairy Council has a great work before it. Whether or not the present basis of organization will be found workable for long, remains for the future to determine. Certainly, the present representation from each province and branch of the industry seems fair now, although yielding a Council which may prove too large. Already, problems have presented themselves and others are looming upon the horizon, which will require the full force and the best intelligence of the dairy industry. Nor the least of the opportunities for effective action lies in the direction of greater publicity in regard to the best value of dairy products, and equally important, although of a different nature, is the necessity for a thorough study of dairy economics.

Success to the Canadian Dairy Industry, and may the various dairy organizations find full support in their new official mouthpiece in Dominion Affairs, the National Dairy Council.

Problems at the Peace Conference.

BY ALLAN MCDIARMID.

If circumstances permit the carrying out of the world's program, as it has been outlined for the next six months or so, it will do more in connection with the welfare of the human race than any similar period of time that has elapsed since the very beginning of things, insofar as this particular world is concerned, at least. If the different nations of the earth are to have the opportunity of progressing steadily towards the possibility that awaits each of them there are hundreds of problems, each of first-class importance, that will have to be solved within the next half-year by the men who take part in the Peace Conference, soon to meet in Europe. Some of these problems are apparent already, others will arise in the course of the deliberations of the Conference. For instance, one of the things that seems to be bothering a good many people already, is how we are going to make Germany pay the total cost of the war, while at the same time compelling her to hand over to the Allies the greater part of her transportation facilities, which include ships, locomotives and freight cars, and also bringing into operation against her the boycott on all goods that she may manufacture in the course of the next five, ten or more years. How Germany is to pay an indemnity of billions of dollars, to say nothing of her own war debts, if we refuse to do business with her, is certainly some problem. It will be the old puzzle of how to "have our cake and eat it too," over again.

But the greatest task of all that lies ahead of our Peace delegates is the bringing into existence of the "League of Nations," which so many are looking and hoping for at the present time, with the conviction that through it and by it alone can war be prevented in the future.

Never having had a league of all the world-nations on this earth, it is impossible to say how effective it would be in fulfilling the object of its creation. It is pretty hard to see how it could be effective. In case a certain nation in the League considered herself unfairly treated and rebelled, using the limited means at her command to enforce her claims, what would the result be? It would simply mean that the other nations would become involved in a war with her at once. This war might be of short duration, but if, on the other hand, the rebelling nation induced some one of the other countries to become her ally, the said war might be indefinitely prolonged. And there we would be, back where we were before a "League of Nations" was even thought of.

It would seem as if there was just one way to bring war, among the various people of the earth, to an end; and that is to remove the necessity for it.

A good many people doubt the fact that it is ever necessary, but it is fairly certain that these people are mistaken. Time and again, in the past, war has been necessary that right might triumph. And many a decaying nation has had its vitality renewed and a great future opened up before it through having war forced upon it and having to fight for its life.

War has had its part to play in bringing the world as far along as it is at the present time, we will have to admit; whatever may be said for it as a factor in the more advanced civilization of the future.

As we said, it will depend on to what extent we remove the necessity for it. And while the spirit of selfishness exists in the world to the extent that it seems to at the present time, there isn't much use holding out the hope that we will escape its natural consequences. The law that makes suffering follow sin is old enough for us to be all pretty well acquainted with it by this time. So we needn't think that any man-made law of ours can cut in ahead of old Mother Nature and help us to escape the penalty of our folly and perversity. If it could, progress would come to an end and man would gradually return to the state of degradation from which he has, with so great an effort, arisen.

Looking at the situation as it appears at the present time, one is inclined to say that what the world most needs is missionaries. Not perhaps the kind of missionaries we are accustomed to send to uncivilized countries, but teachers and preachers who can and will educate our so-called democratic peoples up to a higher standard of morality and a better understanding of the duties and privileges of the world-citizen of to-day.

When man has been taught to take a real and kindly interest in his brother-man, in no matter what part of the world he may be living, and when he knows that it is only when humanity as a whole goes forward that it will reach its destiny, then he will be likely to act in accordance with that belief and create around himself the conditions that his new ideals suggest.

It is all a matter of education. When we are educated up to the point where we need war's discipline no longer then war will come to an end, naturally and as a matter of course. Reformation cannot be forced on either a man or a body of men. He or they have to be educated up to the point where they can see the folly of their present course of action and made to turn from it by force of their own free will and common sense. Then will the change be permanent and real progress will have been made. It all boils down to the old saying that "you can't turn a man by Act of Parliament." It would be nothing out of man a machine, and we need no more lessons on the foolishness of that course than our supposedly great nation has lately given us.

It all amounts to this: War has its place in a partially developed world and when man creates the conditions that are favorable to it he can't possibly prevent its appearance, any more than he could break another of Nature's laws by drinking some poisonous

things and not be made sick by it. The law of cause and effect is in just as good working order as ever it was. If we've seen the last of war it is because the heart of the world has been changed and not because our law-makers in Europe are drafting a new set of rules to keep out of mischief.

Nature's Diary.

A. B. KLUGH, M.A.

Peat. (Continued).

Primarily the organic materials from which peat originates are two—cellulose, the substance of which the cell-walls of plants are composed, and lignin or woody matter. These are often mixed with lesser quantities of other organic compounds which have been formed in the course of the activities of the plants. Of these compounds the cellulose is the least changed by decomposition.

During the process of decomposition, as it usually goes on in a peat-bog a part of the gaseous elements, oxygen and hydrogen, together with part of the carbon are liberated as methane or marsh-gas and carbon dioxide. These gases contain respectively more hydrogen and more oxygen than carbon, hence the more completely decomposed peats have a higher percentage of carbon than those less decomposed.

The quantity of ash which is left after combustion determines within certain limits the value of peat for commercial purposes, since the fuel value decreases with the increase in the ash content. This is due to the fact that the ash constituents replace a certain amount of combustible matter, that the ash uses up heat to raise and maintain its own temperature, and also uses up heat energy in bringing about chemical changes in the minerals which compose it. The maximum amount of ash considered allowable in fuel peat is 20 per cent. of the total dry weight of the peat. Irish authorities class peat with 5 or less per cent. as good, with from 5 to 10 per cent. as fair, and from 10 to 20 per cent. as bad, while the Swedish standards are as follows: Good 2 to 5 per cent.; fair, 5 to 8 per cent.; poor, 8 to 14 per cent. When peat is to be used for the generation of producer gas, to which we shall refer later on, a higher proportion of ash may be present than in the case of that which is to be used in the ordinary way as fuel.

Now that we have considered the manner of peat formation and its general characteristics, we are in a position to discuss its fuel value and methods of preparation for use as fuel.

The ideal fuel should maintain a steady and efficient fire, and be capable of easy control, with small attention and without developing smoke or offensive or injurious gases. It must not have too much ash, and must not produce clinkers and slag which will clog the fire and fuse to the grate-bars or fire-box, nor give off compounds which will corrode the boiler or other metal work. It must be cheap, efficient and transportable.

The maximum temperature developed by the combustion of perfectly dry peat of good quality is very high, being over 4,000 degrees F.

The lighter, more fibrous kinds of peat ignite when heated in the air at about 400 degrees F., and burn with a red, smoky flame. The burning is accompanied by a characteristic biting or acrid odor and a grayish or whitish smoke. Black and denser kinds of peat do not ignite as readily, and burn less rapidly. These characteristics of the different kinds of peat are so well recognized in Europe that the fibrous kind is cut for use as kindling, and the denser kinds for general use.

In comparing the efficiency of different fuels the figures are given in either calories or British thermal units. A British thermal unit, abbreviated to B. t. u., is the amount of heat required to raise one pound of water one degree F. The values of some common fuels are as follows:

One pound of wood yields 5,760 B. t. u.
One pound of lignite yields 7,069 B. t. u.
One pound of air-dried peat yields 7,615 B. t. u.
One pound of bituminous coal yields 11,000 B. t. u.
One pound of anthracite yields 12,523 B. t. u.

The figures given above are for average samples of these fuels, and there is naturally a wide variation in the calorific value of these fuels depending on their quality. Thus anthracite varies from 10,966 to 14,000 B. t. u. per pound, and bituminous from 10,706 to 13,365 B. t. u. per pound. The variations in peat are as follows:

Peat with 1% ash and free from water, 10,297 B. t. u.
Peat with 4% ash and 11% water, 9,117.
Peat with 1% ash and 15% water, 8,688.
Peat with 10% ash and 15% water, 8,045.
Peat with 1% ash and 25% water, 7,615.
Peat with 10% ash and 20% water, 7,508.
Peat with 20% ash and 20% water, 6,436.

The water content of air-dried peat will, as we have previously pointed out, vary in different parts of Canada and at different seasons, the usual content being from 20 to 25 per cent. The ash content will vary from 3 per cent. to 20 per cent. On the whole, peat as used will stand in calorific value to anthracite as 7.5 to 12.5, or approximately 7 to 12.

Now as to its other characteristics as a fuel in comparison with coal. Peat raises steam in a boiler, in about one half the time taken by coal. It is free from cinders, clinkers, sparks, soot and smoke, and evolves no injurious gases in burning. Coal on the other hand yields a large amount of ash and soot which clog the flues, the fusible character of the ash makes slag and clinkers a constant annoyance and causes loss of heat, its gases corrode boilers, and its smoke is a source of annoyance and detrimental to health.

(To be continued.)

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