

Carbon Briquettes Would Save Money

Plant Could be Operated With Profit
for Both Producer and Consumer

To save from 45 cents to \$2.50 per ton is a possibility for the anthracite coal users of the Prairie Provinces. In 1916, Canada imported 4,570,000 tons of anthracite coal, nearly all of which was used for domestic purposes. Of this, about 400,000 tons were shipped to destinations in Manitoba and west thereof for domestic use. As the eastern portion of Saskatchewan forms the competitive area between supplies of United States coal on the one hand and the high grade bituminous coal of the Rocky mountains on the other, the cost of coal in that portion of the province is high.

An investigation undertaken by the Commission of Conservation in co-operation with the Advisory Council for Scientific Research shows the economic possibility of manufacturing a high-grade fuel from the lignites of Saskatchewan. The results are published in the pamphlet "Carbonizing and Briquetting of Lignites." Carbonized lignite briquettes are stated to be practically equal in heating value to anthracite coal. They will, therefore, stand comparison very closely on the basis of cost. An examination of the accompanying table will show that the difference in favour of briquettes as compared with anthracite coal varies from 45 cents per ton at Portage la Prairie to \$2.50 per ton at Moose Jaw. This allows a profit of \$1.00 per ton to the producing plant having a capacity of 30,000 tons per annum. With a capital cost of \$400,000, this would return $7\frac{1}{2}$ per cent on the investment. The lower price of carbonized briquettes would mean a large saving to consumers in western Manitoba and Saskatchewan and a plant such as that referred to would save some \$225,000 to the country annually which is now being paid to American coal producers.—W.J.D.

Factors in Production

1. Importance of Good Seed

Now is the Time to Prepare Seed for Spring Sowing

It has been many times clearly demonstrated that it pays to sow good seed. This applies with equal force to grain, root, vegetable and garden seeds. Some of the seeds required on the farm may have to be purchased, and only the very best should be obtained. If there is one thing, however, that is largely in the farmer's own hands, it is the quality of the grain used for seed. Under ordinary conditions, the farmer should not find it necessary to buy seed grain, once he has secured a variety suitable to his farm.

The time to select most intelligently and profitably is when the grain is still standing uncut. The best part of the best field should be marked and from it the seed should be kept. Those who have not done this should, however, do the next best thing, and thoroughly clean the grain for the spring sowing. Now is the time to do it. Do not wait until the day the seed is required for sowing. Use the fanning mill now. Put the grain through the mill two or three times, or until all dirt, shrunken kernels and weed seeds are cleaned out. This is the season when labour is most plentiful and when time will permit carrying out these operations. Clean seed grain will mean larger yields. Strict attention to this matter is a part of the 'bit' expected of the farmer.—F.C.N.

A CORRECTION.—The article on 'Famine or Food' in our December issue inadvertently stated that the statistics of production given were for wheat, whereas it should have said they were for cereals—wheat, corn, oats, barley and rye.

Nature of Insurance

Combination of Interests Distributes Individual Losses

Experience may show that, of 10,000 dwellings having an aggregate value of \$50,000,000, fifty are damaged by fire every year and a loss of \$250,000 entailed. Experience does not indicate, however, which 50 of the 10,000 will be burned next year nor the proportion of damage that will be done in any one. Consequently, each individual owner, where there is no system of insurance, is liable at any time to the total loss of his investment. But, assuming that these 10,000 property owners combine into one group, it is clear that they substitute for individual uncertainty a definite knowledge. Upon the basis of past experience, the annual loss upon the whole group will amount to \$250,000, and it, therefore, follows that an assessment of one-half of one per cent upon the valuation of each individual's property will provide sufficient funds to reimburse the loss of the entire group. The element of probability, when distributed over a group, becomes a certainty, and the larger the group the greater the certainty.

In its commercial aspect, fire insurance is an accumulation of funds to meet future eventualities by applying the law of average to losses by fire. Damage to any given building, in any given location, within any given space of time, is a matter of uncertainty. With the combination of a number of separate buildings into a group, the element of probability is introduced. It is in the application of this principle that a distinct gain to society is apparent in the institution of insurance.—From 'Fire Waste in Canada,' soon to be published by the Commission of Conservation.

NEW FOREST SERVICE FOR NEW BRUNSWICK

The Government of New Brunswick is now considering the entire reorganization of the various lines of forestry and fire protection work with a view to combining them under a single head. This would mean the establishment of a genuine provincial forest service with a co-ordinated staff handling fire protection, sealing, enforcement of cutting regulations on Crown lands and continuation of the forest survey and land classification. It would also mean a permanent fire-fighting staff with adequate financial support, partly derived from assessments on timber owners, as is done in other provinces. Such reorganization would mark a new era in forest conservation in New Brunswick, and it is to be hoped favourable action will not be delayed.

How to Make Your Coal Burn Longer

Hints on the Firing of Furnaces that Will Reduce Coal Bills

Keep the fuel bed thick so that it will not burn through in spots and admit a large excess of air. If there is a bright bed of coals over the entire grate, as there should be before a heavy charge is fired, some of the burning coal should be pushed to one side or end of the grate—the part nearest the opening when the gases leave the fire pot—and the bed of live coals made thicker there. Then fire the fresh charge so as to make the bed approximately of uniform thickness and you will have a bright spot of live coal to ignite the combustible gases coming off the freshly fired fuel.

If the fire is low, take care not to put it out by throwing on too much fresh coal. Fire lightly and allow each firing to become ignited before fresh coal is thrown on. Use small sizes of coal if they are available.

When preparing the fire to last over night or for a similar length of time, push some of the burning coal aside and fire the fresh charge so as to leave a bright spot visible to ignite the distilled gases. The drafts should then be allowed to stand open for a short period, possibly half an hour, before they are closed for the night, so that a part of the volatile matter or gases in the air supply is greatly reduced.—From *Saving Fuel in Heating*—House, issued by the United States Bureau of Mines.

Electric Locomotives

(Continued from page 1)

ing stock was not subjected to a much wear and tear as when steam was used. This latter fact was largely due to the superior braking qualities of electric-drawn trains. Air brakes were not used on grades except in cases of emergency. In fact, it was found that as much as 11.3 per cent of the power consumed during the period of the test was generated by the trains themselves on the down grades. The experiment was so satisfactory that the company has decided to install electric equipment on its Cascade division as well.

In a region so lacking in coal and so rich in water-power as is Central Canada, we may expect that, in coal will, in favourable situations, induce the electrification of part of our steam railway mileage. Locomotives could be turned into other productive uses, an important step would be taken in making Canada more independent of the American coal market. Concurrently with that advantage, the country's trade balance would be considerably improved.—A.D.

CARBON BRIQUETTES

	Price of U.S. anthracite per ton f. o. b.*	CARBON BRIQUETTES			Difference in favour of carbon briquettes
		Freight rate and switching from B'enfait	Estimated cost f. o. b. cars	Selling price profit of \$1.00 per ton f.o.b. cars	
Winnipeg.....	\$ 9.50 to \$10.00	\$1.90	\$9.15	\$10.1545
Portage la Prairie	10.00 " 10.50	1.80	9.05	10.0545
Carberry.....	10.65 " 11.15	1.60	8.85	9.8580 to \$1.30
Brandon.....	10.40 " 10.85	1.50	8.75	9.7585 " 1.10
Virden.....	10.80 " 12.15	1.60	8.85	9.8595 " 2.30
Moosemin.....	11.00 " 12.25	1.80	9.05	10.0595 " 2.30
Wolsley.....	11.50 " 11.75	1.80	9.05	10.051.45 " 1.70
Regina.....	11.50 " 12.25	1.60	8.85	9.851.75 " 2.40
Moose Jaw.....	11.45 " 12.35	1.50	8.75	9.752.50

*Owing to the steady exhaustion of the anthracite resources of the United States, these prices will increase year by year.