

H. G. Acres, Toronto, in discussing the heating of houses by electricity, mentioned that if Toronto, with its 80,000 houses, depended upon hydro-electricity for heat, about 1,750,000 horse-power would be required on the coldest days. This was evidently an impossible scheme inasmuch as this quantity of electricity could not be applied to other uses when less heating was necessary. Moreover, the available water power in Canada was insufficient to heat the houses in the country, apart from the demands for power. It was, of course, possible to use electricity to supplement other heating apparatus during the very cold periods. Mr. Acres did not consider that the aesthetical preservation of the Niagara Falls should be considered to the detriment of the development of power. He thought that the water power at Niagara was an instrument placed by Divine Providence to enable us to raise the scale of living and to promote the welfare of the people.

Dr. T. K. Thomson, of New York, advocated the fuller development of the Niagara River water power, and stated that it was quite feasible to throw a dam across to impound water to a depth of 100 feet at a cost of \$100,000,000 to develop about 2,000,000 horse power. He said that capital was available for this purpose whenever the authorities would consent to the scheme. The demand for electrical power was increasing at an enormous rate. For example, New York State now had about 3,000,000 horse-power and the annual increase was about 300,000 horse-power.

Arthur V. White, Toronto, wished to safeguard the public in the matter of electric heating. So much had been stated to lead the people to believe that it was both feasible and economical that he believed the meeting should place on record the opinion that it was not so. Toronto alone would require all the power that is now available for heating alone.

H. R. Safford, Montreal, in discussing John Murphy's paper on railway electrification, expressed the opinion that the facts presented were both important and deserving of greater consideration. The electrification of railways is carried out because of certain local reasons. In New York it was a matter of the abolition of smoke and other civic causes. Other lines were new and some were specially adapted for electrification. So that the question should be considered in each case upon its merits and not on general principles.

J. Blizard, Ottawa, thought the whole question of fuel deserved a fuller and more carefully considered investigation. A census of fuel requirements and resources should be made. Before we could intelligently apply adequate remedies it was necessary, in his opinion, to collect every possible fact, so that the problems might be attacked in a comprehensive and scientific manner.

A committee of the council of the society was appointed to consider the conditions existing in Canada. They will have access to all the papers and discussions. and will digest them. The report of the committee will go forward to the government.

The final meeting of the session took the form of a smoker at the rooms of the Toronto branch of the society.

The last pier of the Central Canada Railway bridge over the Peace River at Peace River, has been set up. When completed, the Peace River Railway bridge will be one of the largest in Western Canada, being 1,735 feet long from abutment to abutment and 77 feet above low water level. The three central piers in mid-channel were built in 40 feet of running water, at low water mark.

## GARBAGE AS FEED FOR HOGS

The Commission of Conservation, Canada, has recently issued a most interesting and comprehensive pamphlet on the methods and success of feeding garbage to hogs, employed in the cities of Saskatoon, Sask., Worcester, Mass., and Grand Rapids, Mich.

The two American cities were visited during the summer of 1917 by Prof. G. E. Day, of Guelph. In both plants the garbage is fed raw. In the Saskatoon plant, however, the garbage is boiled and mixed with a small amount of grain. This is probably the best plan of procedure in Canada where sterilization is required and the feeding of garbage to swine is conducted under license and inspection. These licenses are issued through the Veterinary Director-General at Ottawa.

Arthur Wilson, medical health officer at Saskatoon, states that a conservative estimate would be at least 1,600 hogs fattened and marketed during the year.

In that city the feeding of boiled garbage to hogs according to by-law has proven eminently successful, he reports.

At Worcester, Mass., a city of about 170,000 inhabitants, the garbage is fed at the home farm, an institution for the city's indigent poor, which contains about 600 acres, and is situated about three miles from the city.

In 1917 the home farm was getting only about 60 per cent. of the garbage, the remainder being handled by private individuals who had been granted licenses by the city. These private collectors were getting the best of the garbage, and the part most cheaply collected, because they took it from hotels, restaurants, and large boarding houses.

The superintendent, Thos. Horne, stated that fifteen tons of garbage per day would maintain three thousand pigs of all ages. According to his calculation, one ton per day would be sufficient for ninety fattening pigs. This is nearly three times as high a valuation of garbage as was made by Messrs. Brown and Hartman, at Grand Rapids. The method of feeding may partly account for the discrepancy.

The pens are floored with cement and about half of each pen has a plank over-lay for the bed. The garbage is fed on the cement floor next to the feed passage and there is also a cement trough for water. For out-door feeding, wooden platforms, built on runners, are used.

Mr. Horne claims that garbage, fed raw, is a perfectly balanced food for pigs. The herd was destroyed by foot-and-mouth disease in 1915, but cholera is prevented by immunization.

Alvah Brown was the pioneer in garbage feeding at Grand Rapids, Mich. The farm where the garbage is fed is about 30 miles from the city, of sandy soil, in a thinly settled district. The present stock on the farm comprises 300 cattle, 400 sheep, and 700 pigs. There is not quite enough garbage to supply the requirements of all the stock on hand, and a certain amount of hay has been purchased for the cattle and sheep, though it is claimed they prefer garbage.

The garbage is fed raw. Mr. Brown attempted to cook it, but claims he found it decreased the value of the garbage as food, and increased the cost. The company is satisfied, therefore, that it pays better to feed the garbage raw and treat the hogs as a precaution against cholera. In summer, Mr. Hartman, who is managing the farm, recommends feeding pigs on the ground, and shifting their location occasionally so that there is no chance for any considerable fermentation of the material on the

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