

Commission of Conservation

CANADA

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CONSERVATION is published the first of each month. Its object is the dissemination of information relative to the natural resources of Canada, their development and the proper conservation of the same, together with timely articles covering town-planning and public health.

The newspaper edition of CONSERVATION is printed on one side of the paper only, for convenience in clipping for reproduction.

OTTAWA, AUGUST, 1917

Future Timber

Actual Practice of Forestry Principles
Necessary to Assure Supply

The ultimate goal of all silvicultural work is to secure on a given area a high production of valuable material, in order that the owner may secure the largest possible returns in the long run. More specifically the objects are:

1. To secure quick reproduction after the removal of timber.
2. To produce valuable species instead of those having little or no market value.
3. To secure a full stock, in contrast to stands of small yield.
4. To produce trees of good form and quality.
5. To accomplish the most rapid growth compatible with a full stand and good quality.

Relatively little progress has been made, as yet, in the actual application of these principles in Canada. In practically all of the regulations affecting Crown timber in the various provinces, provisions have been inserted, usually specifying diameter limits for the various species. Not only are these restrictions generally insufficient, but, as a general rule, the provision made for enforcement is wholly inadequate. If the interests of the future are to be properly safeguarded, it will be necessary for every administrative organization having to do with Crown lands in Canada to provide, to a materially larger extent than at present, for the employment of trained foresters, and for putting forestry principles into actual practice in connection with logging operations.—C.L.

New Zealand has seven government forest nurseries, the output of which varies from 2,600,000 to 3,000,000 trees annually.

Our Northern Water Powers

May be Utilized for the Making of Nitrates from the Air

Canada must, to a great extent, look to the electro-chemical and metallurgical industries for the beneficial utilization of its water-power resources. Particularly is this the case with our abundant northern water-powers, where many attractive sites afford natural facilities for low development costs and cheap production of power. While at present these sites are remote from settlement and transportation is sometimes difficult, their utilization appears feasible in some of the processes now being used for making nitric acid and nitrates from atmospheric nitrogen.

In this connection, some of the principal features of the various methods at present in use are of interest. Nitric acid from the atmosphere can be produced with the aid of electricity in two different ways. One of these, the indirect method, is the only one so far employed in Canada, where works of considerable size have been in operation for some years. This method combines a number of separate operations, carried out in separate plants or factories. These operations comprise the making of calcium carbide from coke and lime, and a combination of the carbide with nitrogen gas to form calcium cyanamide. The latter may be used directly as a fertilizer, but for explosives or other industries using nitric acid the acid is obtained by a third operation involving a treatment with superheated steam and air.

In the direct method air is blown through a long electric flame, forming nitric oxide gas which, on cooling, takes up more oxygen and becomes nitrogen peroxide. When the latter is brought in contact with water it gives nitric acid. The process is a simple one, requiring only a single factory and a simple plant, and, as the raw materials consist merely of air and water, such works can be established in the most remote location, cheap electricity being the great essential.

It will be thus seen that for the indirect method raw materials and transportation facilities are important questions, while, as just stated, the only raw materials required in the direct method are air, water and cheap electric energy. It would therefore appear that much should be expected from this direct method in the utilization of our northern water powers.

Nor need this industry be confined to large organizations and the utilization of new water-power sites. Mr. E. K. Scott, after whom a nitrogen furnace of the direct type is named, suggests the erection of

plants of as low as 1,300 h.p. size as adjuncts to central stations, to secure a better load factor, under which conditions the electric energy used may be figured at an extremely low cost.—L.G.D.

Conservation of Platinum

Its Use in Jewelry to be Discouraged, to Save the Metal for War Purposes

Platinum is a metal which is essential to certain chemical and other industries. Owing to the great demand for this metal, incident to the war, and the scarcity of the supply, which is derived largely from Russia, the price is increasing rapidly. Having in mind the present needs for platinum in the United States, the Jewelers' Vigilance Committee has adopted the following resolutions: "Whereas, the Secretary of Commerce has requested the platinum committee of the Jewelers' Vigilance Committee to bring to the attention of the jewelry trade of the United States the advisability of conserving platinum in order that our Government may have larger supplies to draw upon for war purposes, and

"Whereas, the jewelry trade has already clearly expressed its desire and determination to assist our Government to the extent of its ability in bringing the war to a successful termination: be it

"Resolved, that we pledge ourselves to discontinue and strongly recommend to all manufacturing and retail jewelers of the United States that they in a truly patriotic spirit discourage the manufacture, sale, and use of platinum in all bulky and heavy pieces of jewelry. Be it further

"Resolved, that during the period of the war or until the present supplies of platinum shall be materially augmented, we pledge ourselves to discontinue and recommend that the jewelry trade discourage the use of all nonessential platinum findings or parts of jewelry, such as scarf-pin stems, pin tongues, joints, catches, swivels, spring rings, ear backs, etc., where gold would satisfactorily serve. Be it further

"Resolved, that the jewelry trade encourage by all means in their power the use of gold in combination with platinum wherever proper artistic results may be obtained. Be it further

"Resolved, that copies of these resolutions be handed to the Secretary of Commerce, to the trade press, and be sent to all our trade organizations, and to the daily press, in order that they may have the widest possible dissemination."

This a commendable action and one that should also be taken in Canada.—W.J.D.

Water-powers Appreciated

Their Use has Minimized the Effect of Fuel Shortage

The inestimable value of Canada's water power resources is being more and more emphasized, and the large amount at present developed and utilized is attracting much attention outside the Dominion. A recent article in a New York technical journal pays a high tribute to this wealth, stating that, while electrical central station managers in the United States have been rather restive since the war was declared, wondering how they would weather the approaching storm, Canadians have passed through the crisis unscathed. The principal difficulties feared were that of financing and of securing coal. In Canada, however, as almost all the electric energy is generated from water-power, the scarcity and high price of fuel have not affected the industry materially. The low hydro-electric rates prevailing are a strong incentive to industrial extension and the per capita consumption of electricity in Canada is enormous. While the manufacture of munitions has helped to swell the figures, the total, exclusive of munition manufacture, is still very large.—J.G.D.

THE DUTY OF THE INDIVIDUAL

Strict economy is needed in the use of all food stuffs by each and every individual householder. Our food supplies must be conserved, but they should not be hoarded. Of what use is a mine unopened, a forest untouched or land untilled? By the conservation of our food supplies, we mean that they should be used in the wisest possible way and shared equitably. We should eliminate superfluities and luxuries and eat the things that are substantial, plain and nourishing. There are many foods produced in Canada, such as corn, peas, beans, oats and barley, which are not used as much as they could and should be. Unless provision is made to care for and properly use the garden vegetables, much of this material will be wasted. Perishable things should be canned wherever possible. Rhubarb, tomatoes and other vegetables should be put away for winter use.—F.C.N.

In 1913, South Africa imported 21,263,000 eggs. This year it will be found that over 2,000,000 have been exported, after local requirements had been filled.

This year there are in South Africa, as nearly as can be estimated, 31,424,680 sheep and 8,920,270 goats.