

Conservation

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Creosote and Cross Ties

Waste of Creosote in Canada—Large Consumption of Ties Would Warrant the Use of Preservatives

One million, four hundred thousand gallons of creosote could have been produced in Western Canada in 1910 if the coal that was converted into coke had been coked in by-product ovens. With the exception of the creosote produced from the by-product ovens at Sydney, N.S., and at Sault Ste. Marie, Ont., no creosote is produced in Canada. This valuable wood preservative is imported from Britain and the United States, but the high cost of the imported article has restricted its use very materially. In view of the steady and even rapid rise in the price of almost all classes of wood products, the importance of creosote is readily seen.

For example, there is the problem confronting Canadian railways in obtaining timber for cross ties. There were 13,683,770 ties purchased in Canada in 1911, an increase of 48.5 per cent over the figure for 1910. When it is considered that the annual replacement of ties on existing lines amounted to about 10,000,000 it is evident what enormous quantities of tie material are required in order to supply the demand. This demand will not remain stationary but, on account of the increased mileage of railways being constructed in Canada will increase each year.

Owing to the other demands for lumber and wood products, the price of cross-ties has been steadily increasing. The cost of tie maintenance is now a large item of expense and the higher prices of the better grades of wood have forced the railway companies to use inferior woods.

The diagram shows that, in 1908, cedar ties constituted 40 per cent, and jack pine (an inferior wood) 10 per cent, of the total used on Canadian railways. In 1911, the proportions were, cedar, 5.3 per cent, and jack pine 39.9 per cent.

In order that the lower grades of wood may be economically used for ties it will be necessary to creosote those species that fail through decay. In order, also, to utilize ties of the softer woods, it is necessary to use tie-plates.

When it is remembered that the average life of an untreated tie is seven years, while the life of a treated tie is seventeen years, the importance and value of creosote is readily seen.—W. J. D.

Canadians Not Good Fish Eaters

Exhibition of Fish to be Made by Dept. of Marine and Fisheries at Toronto Exhibition, 1913

While the assistance in the transportation of fresh fish that the Department of Marine and Fisheries has been giving during the past few years, has resulted in a very rapid development in the trade, there is room for a still more rapid expansion and extension of the business. There is no question that people in the interior portions of Canada could, with advantage to themselves physically and financially, consume much larger quantities of fish than they are doing. No doubt, the reason for the present condition is then that fresh fish have not been offered for sale in an attractive form, notwithstanding that, with the express and cold storage services now available, it is possible to place such fish in excellent condition and at moderate prices, in practically all the markets of Canada. Much could be done to expand the demand by suitable exhibits of fish at the more important exhibitions in the interior of the country; but it is realized that such exhibits would cost more than individual persons or firms would care to expend. The Department of Marine and Fisheries has, therefore, decided to give a thoroughly comprehensive fisheries' exhibit at the Toronto fair this year. It is the intention to make this exhibit representative of all kinds of Canadian commercial fish, both in fresh and cured conditions. The Department will be glad to receive suggestions from those interested in the industry as to the arrangements, special features, etc. of the exhibit.

Dominion Parks a National Asset

Expenditure for Current Year—Revenue from Tourists Growing

The seven Dominion Parks in Western Canada administered by the Parks Branch, Department of the Interior, aggregate over four thousand square miles. Plans now made contemplate the expenditure of \$486,000 during the coming year in the protection and development of these important areas. The construction and improvement of roads, trails, and bridges constitute the principal features of the proposed development.

These parks are "for the benefit, advantage, and enjoyment of the people of Canada." The extent to which their facilities are utilized is indicated by the fact that during the year 1912, it is estimated that one hundred thousand people visited the Rocky Mountains park alone. Aside from the advantages in health and recreation, the importance of the tourist traffic to a country from the standpoint of revenue, is indicated by the estimate that, from this source alone, France derives an annual revenue of \$500,000,000, and Italy \$100,000,000. Tourists spend seven million dollars each year in the Adirondacks.

Great care is being taken to prevent destruction of the natural beauties of the parks by forest fires. The preservation of the game is another feature of great importance in the handling of these vast playgrounds of the people.

The scenic grandeur of Canada's parks is unexcelled. That this fact is becoming widely realized is proved by the constantly growing stream of travellers who are taking advantage of the opportunities thus offered.—C. L.

Civic Cleanliness

Town Dumps a Discredit to Canadian Towns and Cities—Better Scavenging Regulations Essential

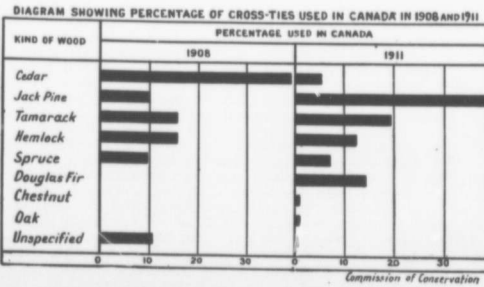
Civic cleanliness has not advanced very far in Canada. The town dump, with all its tin-cans, waste-paper, old rags and ash conglomerate is frequently as much a public institution as the town hall or the town council. For the sake of economy in cartage the dumps are frequently placed much too close to residential districts, and civic apathy permits them to remain there, and to grow in bulk and unsightliness.

Garbage must be disposed of, but why our civic authorities should not insist upon the burning up of much of the house waste upon the premises, either in the furnace or the kitchen stove, is something to be marvelled at. If there were more domestic tidiness in Canadian towns and cities in the way of destruction of many articles of house waste by home cremation, the gross saving to the municipality would be considerable and the town dump would be less in evidence.

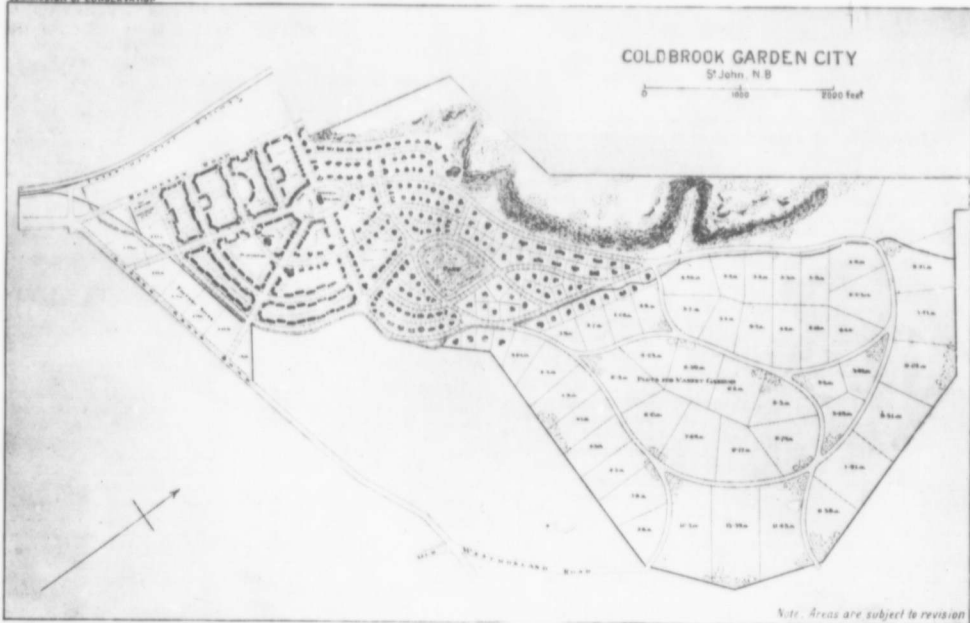
Then, too, the "dump" should be supervised, and men should be employed in burning all such materials as paper, cardboard and other boxes, discarded matting, etc. This would result in the saving of space and prevent the scattering of the lighter materials by wind. Further the destruction by fire of as much as possible of the material brought to the dump would prevent to some extent the fly nuisance from that quarter. On the completion of the burning operations, the health department should insist that all garbage should be covered first with a layer of lime, and then with clean earth, the latter for the depth of at least three feet. Of course in cities and large towns incinerators should be installed and the dump should only be used as a repository for ashes and clean earth. Scrap should be sold.

The spring time is a good season to declare war on the town dumps and on filthy back yards and lanes. If the citizens can be aroused to demand action, the civic officials will very soon supply it.

During eleven months April 1 1912, to March 1, 1913, 357,331 immigrants arrived in Canada, consisting of 133,711 British, 124,398 from the United States, and 99,222 from other countries.



COMMISSION OF CONSERVATION



Courtesy of F. A. Todd, Landscape Architect, Montreal

Note: Areas are subject to revision

Garden cities are something of a novelty in Canada. Their adaptability to Canadian conditions is necessarily something of an unknown quantity. Nevertheless, the great advantages derived from them in Great Britain make their introduction a matter of great interest. The progressive city of St. John, N.B., has been selected as the site of one of these garden cities, a plan of which is shown in the above diagram. The plan includes an area of about 600 acres, all of which is under the control of the promoting company. The erection of houses and other buildings on the English co-operative plan will be proceeded with during the present year.

The westerly portion of the city, nearest the city of St. John, has been designed as a residential district. The streets depart from the old

fashioned "gridiron" design and follow broad, sweeping curves. The cross streets converge upon a centre where the municipal buildings will be erected. Ample provision has been made for parks and play-grounds. To the south of this district, factory sites have been provided, and one large factory is already under construction. The uplands to the east have been divided into garden plots, varying in size from one to fourteen acres. A water supply will be obtained from a nearby stream, a dam and storage reservoir being under construction. An efficient sewerage system and all other requirements of a modern city will be carefully constructed and regulated.

Coldbrook garden city is a piece of constructive work in city planning, the development of which will be watched with great interest by city dwellers in every part of Canada.

Water Waste in Cities Metering As a Preventive—Leaks in Pumps, Mains and Connections Frequently Serious

Curtailment of water waste in cities is a problem of real importance, not only to water-works engineers, but to every urban ratepayer. There is always a danger that any public utility which exists as a monopoly will be subject to excessive waste in its operation. This has too often been true of the water services in United States and Canadian cities, and millions of dollars in the aggregate, are squandered annually by those cities, simply because of inefficiency in this branch of the public service.

Water waste may be due to one or more of a number of causes of which the chief are the following:

(1) Pump slippage, which implies that there is a loss of pump capacity, steam and fuel.

(2) All water-works plants, whether pumping or gravity, suffer loss in distribution through underground leakage from mains and services. Recent surveys in some leading American cities disclosed

the existence of an immense number of underground leaks. In the city of Washington alone, in the past five years, a total of 30,000,000 gallons daily from about 3,000 underground leaks were found, chiefly in mains and service pipes.

(3) Then there is frequently serious waste due to defective plumbing, and "steals" by consumers, who are provided with meters. These are each easily remedied.

(4) Lastly, one of the most serious wastes is due to the extravagant use of water by consumers. This class of "leak" is almost invariably found in cities where meters, or some other method of checking extravagance, are not in use. In this connection the experience of Kalamazoo, Michigan is instructive.

During the year ending March 1893, with a population of less than 18,000, no meters and 30 miles of mains, the total pumpage was 787,621,902 gallons, for which the department received \$15,000. In 1912, with all the services metered, a population of 45,000, and 78 miles of mains, the pumpage was 696,898-

797 gallons, and the revenue \$42,773. A comparison of these figures shows that in 1912, when meters were used, the pumpage was 90,723,105 gallons less than in 1893 and the increase in the revenue amounted to \$27,773. At the same time, the population of the city increased by 150 per cent, and the mileage of mains by 160 per cent.

Again, it has been found, both in American and Canadian cities, that very serious waste occurs as a result of defective pumps, mains or connections. During a pitometer survey, recently made, of the pumping stations and mains of a city of Eastern Canada, leakages were discovered aggregating 4,000,000 gallons a day, an amount equal to about 25 per cent of the city's total consumption. A broken three-inch main to a distused foundry was found discharging full bore into a sewer, and this, with a leak in a one-inch service to the same foundry caused a daily loss of 2,100,000 gallons. During less than three months a total leakage of 4,000,000 gallons per day was discovered.

In this city it was found that

the gas-works were using 125,000 gallons per day but were only paying a flat rate of \$245 per annum whereas this quantity of water at the minimum meter rate of only 6 cents per 1,000 gallons should have produced a revenue of \$2,737.50. A paper mill using about 137,000 gallons per day paid \$27 per annum instead of \$24.90.

Authorities agree that at least 60 per cent of the tree as it stands in the forest is wasted in converting it into lumber, and that 25 per cent of the trees remain in the forests to rot or be destroyed in forest fires.

Delivery of rural mail by motorcycle has been tested with apparently satisfactory results in parts of the United States. It is much quicker, less cumbersome, and, where tried, less expensive, than the horse and carriage method. Rural fire delivery has done much to make farm life more attractive. Improvements in the service will add to its usefulness.

Books on Agriculture

Publications That Are of Value to the Professional Man, the Librarian or the Farmer

The following list of works on agriculture is purely suggestive. It is compiled from lists of scores of books, each one having its own peculiar merit. But for the professional man who has but limited time for outside reading, and who desires to broaden his knowledge in the realm of agriculture, the books enumerated will prove to be excellent.

First of all, mention should be made of the many valuable reports and bulletins issued by the Federal and the several provincial Departments of Agriculture. Almost all of these can be had free of charge by making application to the department issuing them. The Publications Branch of the Department of Agriculture at Ottawa issues a catalogue of their publications for free distribution, and doubtless similar lists can be obtained from the provincial authorities. The reports include separate treatises on the different kinds of live stock; specific animal diseases; dairying and dairy products; the growing of many varieties of farm crops, fruits, flowers and vegetables; the use of fertilizers, and the best methods of combating insect and weed pests.

The Commission of Conservation has issued a number of brief reports on Agricultural Conditions in Canada. The following are still in print: Agricultural Survey 1910, Work of the Committee on Lands, 1910; Agricultural Production in Canada, Agricultural Conditions in Canada, 1911, Agricultural Survey, 1912.

Perhaps the most complete and comprehensive work on agriculture is Bailey's "Cyclopedic of American Agriculture" which treats of practically all phases of the subject. It is in four large beautifully illustrated volumes, price \$20.00.

A smaller, though excellent work is "Agriculture" by F. H. Storer in three volumes, price \$5.00.

"Physics of Agriculture" by F. H. King, price \$1.75, treats on the nature, origin and composition of soils, soil moisture and its conservation, drainage and tillage, road construction and maintenance, atmosphere and weather influence upon soils; motors and machinery.

"Soils" by C. W. Burrett, price \$1.25, treats on soils, their properties, improvement and management and the problems of crop growing and crop tending.

"Talks on Manures" by Joseph Harris, price \$1.50. Treats in a popular and readable way of stable manure, clovering, liming and applying muck and peat, restoring worn out land, care and production of manures, etc.

"Elements of Agriculture" by G. F. Warren, price \$1.50. This is a short work in one volume on general agriculture. It includes chapters on plants, animals, soils, fertility, crops, insects, weeds, farm management, the home and the

rural community. If one could have only one book on agriculture, this is the best one that could be selected from those mentioned in this bibliography.

"The Cereals in America" by Thos. F. Hunt; price \$1.75. In this book the cereals are treated under the heads: variety, fertilization, culture, harvesting, production, use and marketing.

"Soiling Crops and the Silo" by Thos. Shaw; price \$1.50. This book treats on crops most suitable for soiling and siloing such as maize, clovers, cereals, millets and roots and gives instructions for construction of silos and the feeding of silage.

"Types and Breeds of Farm Animals", by Chas. S. Plumb; price, \$2.50. It describes the various breeds of horses, cattle, sheep and swine, with short histories of each breed.

"Farm Dairying" by Laura Rose; price \$1.25. In this book the dairy industry is presented in a simple and practical way. There are chapters on buildings, equipment, feeding and watering of the cows, making and care of butter and cheese, the ice house and diseases common to cows and their treatment.

"Poultry Craft" by John H. Robinson, price \$1.50. This book describes the various breeds of poultry and gives instructions for their breeding, care and handling.

"Co-operation among Farmers" by John Lee Coulter, price 75 cents. It treats of co-operation in production, storing and marketing of butter, cheese, meats, eggs, fruits, vegetables and others farm products.

"The Nature-study Idea" by L. H. Bailey; price \$1.25. This is an interpretation of the new school movement to put the young into relation and sympathy with Nature.

"Report of the Commission on Country Life", price 75 cents. It is a record of the findings of the Commission regarding the deficiencies in country life and the general corrective forces that should be set in motion.

"Health on the Farm" by H. F. Harris, price 75 cents. It contains chapters on house sanitation, hygiene of childhood, proper eating, value of various foods, cooking, avoidable diseases, etc.

Classes for Farmers

The Government of Prince Edward Island carried out a series of training classes for farmers and their families during the early part of February. The courses covered two weeks and experts in the several branches of farming took charge of the work. Special railway rates were obtained for those desiring to attend. No examinations were required, but for those who attended for the full course scholarships of the value of \$5.00 were provided.

The total attendance for all the classes was 550. Sixty took the household science course, and 425 qualified for scholarships. The arrangements in the various branches were well made, and the instructors

Springtime Hints For the Farmers

"To each season its work," might well be taken as a watchword by farmers. In few other industries does the seasonal factor count for so much as it does in agriculture. The farmer who neglects to sow his grain at the proper time is certain to be an unsuccessful farmer. Similarly, the farmer who fails to have the summer's supply of wood cut and piled during the winter season is very likely to be haphazard in all his work. Successful farming is based on orderliness. Each little piece of work on the farm falls to some one specific week of the fifty-two in the year. Failure to recognize that fact and to be governed accordingly, spells confusion and lowered efficiency—"To each season its work."

The notes that follow are little pointers that should help the farmer with his spring work. They are written by a practical farmer who has had wide experience in Canadian agriculture and are merely little reminders of work that must be attended to in the spring.

Water-courses should be looked after, and furrows opened up, so as to let off the surplus water before the sun dries it up and bakes the soil. Well drained fields hasten seeding.

If heavy loam or clayey soils are worked when they are wet, they will bake and crack open when dry, and good crops need not be expected. When the soil is in a suitable condition, however, not an hour should be lost. Early seeding gives the best results.

Systematic crop rotation gives the best results. If it has not already been given a trial, apply it to a portion of the farm. The experiment will prove its value.

Sow grain and a heavy seedling of grasses and clovers on the land that was in hoed crops last season.

Plough up the old sod that has been down two or three years and sow corn or roots, or plant potatoes. A heavy seeding of peas will also give good results.

The new, heavy-seeded meadows will give heavier crops than the old ones. New thick-bottom pastures, two years down will feed more cattle than old, thin, worn-out meadows.

Keep all animals out of the pastures during April. Stunted pastures mean stunted animals later on. Give the pastures a chance to make a fair growth during the early spring; then the stock will have something to feed on all summer.

Gather the loose stones on new meadows and roll the land as soon as it is fairly dry. Grain land should not be rolled until the grain is well up.

Clean up the rubbish that has collected around the farm buildings during the winter. Clean surroundings make the farm home much more attractive and healthy.—J. F.

stated that they never attended short courses where more enthusiasm was manifested throughout.

Mink and Martin in the United States

In the fall of 1912, the officials of the Biological Survey of the United States Department of Agriculture secured the appointment of a mink farmer in Idaho as an expert to carry on experiments in the breeding of mink and marten. A 10-acre ranch in the forest reserve along the North fork of the Cour d'Alene river in Idaho was purchased. It was then equipped and placed in charge of the expert who receives a salary sufficient to compensate him for devoting his whole time to the industry of breeding these animals, especially marten. Experiments are also being conducted with mink at the national Zoological Gardens at Washington, D.C., under the immediate charge of the officials of the Department of Agriculture.—J.W.J.

Bean Growing Declining

There is good reason to believe that bean growing in Canada is on the decline. In Ontario, the yield has decreased 1.4 bushels per acre within the last nine years. Owing to continuous cropping the soil has lost certain elements which it once possessed. For this reason the farmer should know the special food requirements of his crop, and supply these elements. Barnyard manure is superior to any fertilizer, but it does not contain all the elements necessary for the growing of a good crop. A fertilizer of acid phosphate and potash with very little hydrogen will best meet the requirements of the growing bean crop.

The "Canada Year Book" for 1911 shows a marked decline in the number of bushels of beans exported to Great Britain in the five years preceding:

1907	1908	1909	1910	1911
3,849	1,547	12	4	153

The bean is one of our tender plants. Our summers are comparatively short, and beans do not get time to ripen before being killed by frost. They are also very sensitive to drought, and wet weather and are often attacked by disease. For these reasons, the crop is often a failure, and "in-stead farmers are growing other crops that promise surer financial returns.—K. M. F.

TOWN PLANNING CONGRESS

Following the meeting convened on the 11th of December, 1912, in the city of Berlin, it has been decided that the first Ontario Congress will convene in Toronto during the month of May next. At this Congress, the proposed contribution of the Ontario Town Planning and Housing Association will be discussed and this important movement will be placed upon a permanent basis. The Secretary of the Provincial Committee is Mr. Frederick L. Riggs, who has an office at 923 Royal Bank Building, Toronto.

Forestry Progress in British Columbia

A Policy of Development—Revenue and Expenditure

The forests of British Columbia contain approximately one-half the standing timber of Canada. The utilization of this vast body of forest wealth is yet in its veriest infancy. The annual growth of the forests of the Province is even now, before they are either adequately protected from fire or from waste, certainly not less than five times the present annual lumber cut.

The declared policy of the newly-established Forest Branch, Department of Lands, is the development of a greater lumber industry for British Columbia, along lines which will provide for the prompt utilization of mature timber, and for safeguarding the forest against unnecessary waste, in such a way as to ensure a good second crop upon logged-off lands.

During the fiscal year 1912 the forest revenue was \$2,753,579. One-tenth of this amount was expended for forest administration and protection, aside from the direct contribution for fire protection made by lessees and licensees. Thus, while one dollar in every four of Provincial revenue was derived from the forests, but one in every fifty expended was devoted to the forests. The plans of the Forest Branch for the coming year contemplate a material strengthening of the fire-protective organization, although the forest fire loss during 1912 was the smallest in the history of the Province, the loss was nevertheless large in the aggregate, and a determined effort will be made in the form of larger appropriations and better organization, to the end that such loss may be reduced to the lowest possible figure in the future. The Provincial Government is thus acting on the thoroughly-established principle that the permanence of forest revenues depends upon a reasonable expenditure for protection and development.—C. L.

Trained Men For Fish Hatcheries

The public are taking a warm interest in the work of fish culture, and any measures for the improvement of this branch of work will be sure to call forth public approval. That the methods of conducting it that have been adopted thus far, do not give satisfaction in all quarters was intimated at the last annual meeting of the Commission of Conservation by Dr. George Bryce, of the University of Manitoba, who said:

"For years we have been endeavouring to save our inland fisheries, and to increase them. Our fish hatcheries are one of the most important means by which we seek to accomplish this. I wish to call attention to the fact that those who are in charge of these hatcheries are often very lacking in expert knowledge. For ex-

ample, sometimes in sending the small fish or the material for propagation from one place to another it is carried in the most irregular way. In one instance, a man put the can against the car-heater so that the fry or ova were all dead before reaching their destination. Things like that occur too often. They show that there is a real necessity for giving expert instruction to those who have charge of these hatcheries. It is absolutely necessary that instruction be given so that the men in charge of this very important matter of the propagation of fish and the study of their habits should be scientifically trained for their work."

On the same occasion, Prof. E. E. Prince, Dominion Commissioner of Fisheries, said that the Biological Board, had recently been given control of its own affairs, and would take up the matter of training men for fish-culture work. He stated further that while splendid work had been done here in fish culture, there had never been a single technically trained man except himself in the fish-culture service of Canada.

Forestry as a Profession

During the last decade forestry in the United States has developed with remarkable rapidity. The adoption of forest management in the National Forests, the activity of various states in public forestry, and the increasing interest of private owners in timber growing and protection have resulted in a marked demand for trained foresters.

When active work in forestry first began there were no forest schools in the country, and those entering upon the work were obliged to go to Europe for technical training. In anticipation of the need of foresters, and in order to aid in the development of forestry, several progressive institutions established schools of forestry, even before the demand for any considerable number of men was definitely assured.

FIRST PROFESSIONAL SCHOOL.

The first professional school was established at Cornell University in 1898. This was followed in 1900 by the Yale Forest School. Private instruction in forestry was given at Biltmore, North Carolina, by Doctor Schenck, in connection with his work on the Vanderbilt estate as early as 1897, and a school for rangers was started by the State of Pennsylvania at Mont Alto, Pennsylvania, in 1903. Since that time instruction in forestry has been introduced in a large number of institutions. To-day there are twenty-two institutions which give courses leading to a degree in forestry, and about forty others which include it in their curricula. It is estimated that there are fully 500 foresters in the United States with a greater or less degree of technical training, in addition to 1500 forest rangers who began without a knowledge of the technical side of forestry, but many of whom through their experience in National and State forest work have, under technical direction, acquired considerable knowledge of

certain phases of the subject. There are probably about 1,000 young men studying in the forest schools. Forestry may therefore be considered an established profession in the United States.

FORESTRY EDUCATION IN CANADA

In Canada, forestry education dates from the establishment of the Faculty of Forestry at the University of Toronto, under Dr. B. E. Fernow, in 1907. This is the leading forestry school in Canada at the present time. Instruction in forestry is also given at Laval University, Quebec, and at the University of New Brunswick, Fredericton. Lectures in farm forestry form a part of the course at Ontario Agricultural College, Guelph.—Ez.

Mine Explosions Due to Gas Wells Abandoned Gas Wells Should be Plugged and Recorded—Leg- islation Necessary

In order to prevent the waste of natural gas and to safeguard future coal mining operations, the Commission of Conservation has recommended in 1911, 1912 and 1913, that Dominion regulations make provisions for the plugging of gas wells (at the time of abandonment) and for the recording of all drill holes bored on Crown lands.

If holes are drilled through coal measures in order to reach the oil or gas zone below and, after natural gas is found, the casing is withdrawn and the well abandoned, the gas "feeders" will be of great danger in future coal-mining operations unless accurate records are kept of the location of the holes. In fact, not only should a record be kept of the hole, but the holes should be filled solidly and tightly from the bottom of the well to a firm stratum below the last string of casing set in above the producing oil or gas sands.

DANGER FROM ABANDONED WELLS

As an instance of the danger to coal mining operations arising from gas wells situated near the mines, the following examples from the United States may be noted:—

On Nov. 21, 1912, an explosion occurred in a coal mine near Shinnston, W. Va. The explosion was caused by the escape of gas from a well situated three or four hundred feet away.

An explosion occurred in two mines of the Consolidated Coal Co., in the Fairmont region, in 1910, which was proved to be directly caused by a capped gas well.

In June 1911, an explosion occurred in a mine near Clarksburg, through natural gas breaking through into the mine. This mine was situated 1500 feet away from the gas well.

Owing to the importance of this subject the National Fuel-Well Committee of the United States have prepared an act to regulate the drilling of oil and gas wells through coal.

Canada might well copy this act at once and place it on the statute books instead of waiting to learn from the loss of life which will eventually follow unless this is done.—W. J. D.

Quebec Is Conserving Its Waters Work of the Running Waters Commission

Great credit should be given the province of Quebec for the step it is taking for better conserving its waters. This policy was initiated about a year ago by the creation of the Running Waters Commission, consisting of three members, for the purpose of making regulations on the disposal, flow, storage and conservation of the running waters and to encourage and facilitate the utilization of the water-power in the Province.

The Commission's first report which has lately been published, gives a summary of its studies and recommendations and sets forth its views with regard to the necessity of controlling stream flow, the harmful effects of deforestation and the possibilities of water storage.

Several hearings were held by the Commission in connection with its work, one regarding the L'Assomption river with a view to interesting the power owners in a water-storage project; and another regarding spring floods of the Chaudière river. A delegation from the municipalities near Maddington fall was also heard regarding difficulties in connection with the prompt development of this water-power.

A very thorough study was made of a storage system for the St. Maurice river; engineers were sent out to make the necessary surveys and the result of their investigations is of great interest. The present minimum flow of 0.38 second-feet per square mile could be raised to 1.11 second-feet by adopting the proposed regulation system; and, by the regulated flow and storage dams, the water-power available on the St. Maurice would be increased from 361,320 h. p., as it is at present, to 1,055,652 h. p., an increase of 694,332 h. p.

Under recommendations on the need of accurate data, the report deplores the lack of information available on stream flow as, at present, such data exist only in a few instances. It urges the importance of establishing gauging stations at once on all the principal rivers. The Commission also recommends a complete inventory of all utilized water-powers, this to be supplemented by an accurate inventory of the water-powers not yet utilized.

The Department of Lands and Forests is also pursuing the investigation of the water-powers of the Province, and the recent issue of the annual report of this department includes the results of surveys of the Mistassini and Muskosibi (Mistassibi) rivers where discharges have been taken and heights of the different falls measured.—L. G. D

The London Free Press Printing Company, Limited, has offered, through the Greater Middlesex Association, a handsome silver cup for the best field of alfalfa, or less than three acres, grown this year.