

# Conservation

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NO. 10

## Scientific Wheat Growing at Guelph

Valuable Information Gained on Smut  
Treatment, Productivity of Seed  
and Fertilization

For nine years in succession experiments were conducted at the Ontario Agricultural College at Guelph in treating winter wheat in different ways to prevent the development of stinking smut and the results have been very satisfactory. In the average for five years, untreated seed produced 4.2 per cent of smutted heads, while seed which was immersed for 20 minutes in a solution made by adding one pint of formalin to 42 gallons of water produced a crop which was practically free from smut. This treatment has been found to be simple in operation, comparatively cheap, effective in completely killing the smut, and productive of the highest yield of grain.

The results of twelve separate tests made at the College show an average increase in yield of grain per acre of 6.4 bushels from large as compared with small seed, of 7.8 bush. from plump as compared with shrunken seed, and of 35.6 bush. from sound as compared with broken seed. Thoroughly ripened seed produced more grain and produced more straw than seed which was cut at an earlier stage of maturity.

Eight separate tests demonstrated that seed on which field peas had been treated with green manure yielded 6.5 bush. of wheat per acre more than land on which buckwheat had been used as green manure. Winter wheat grown on clover sod also yielded better than that grown on timothy sod.

## Returned Soldiers Do Not Favor Farm

President Officer Says Lonely Farm Life  
Does Not Appeal to Them

We spent many an evening in France in our little mess, discussing the problem of what the men would want to do when they returned, and how they would be absorbed into the life of the community. From what we had seen, we came to the conclusion that many of the men who had been working in clerical positions in cities, now that they had had a taste of life in the open, and had become rugged, would go to the farm in preference to the city. But we have had to re-examine that conclusion. We now find that the men, even those who had come

from the land, will not go back to the farm when they come home, because, for one reason, they have become more or less gregarious; they have lived together, and men who had lived a lonely life before, have now had friendships for years. They have made strong friendships, and they have come to a different point of view on almost everything.

The returned soldier is a man who cares very little for wealth or for position; he will look you right in the eye and tell you exactly what he thinks. I have had men applying for positions who had been private soldiers, and, although I was in uniform, they would come in and talk to me in a way they would not have dared to do had they been in uniform. They have seen things and they realize a good deal of what is real in life. When we talk of the returned soldier, we must consider, first of all, his mental point of view. The returned soldiers, particularly those who have been in the field more than two years, have been and will be to a large extent spoiled for ordinary work. Many

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## New Timber Policy For New Brunswick

Timber to be Disposed of on Stumpage  
Basis Instead of Under Long Lease

New Brunswick has made a radical change in its method of disposing of timber on Crown lands. Heretofore long leases were given resulting in any increase of value going to the lumber operator. Now, timber cutting permits will be offered at auction on a straight stumpage basis of so much

per thousand feet. The Provincial Government will scale all the lumber cut. It is likely that the change will result in a substantial increase in forest revenue.

Another progressive move on the part of New Brunswick has been the recent organization of a technically-trained forest service.

## Making War Linen Industry Permanent

Ontario's Flax Fibre Production Quadrupled in Four Years. Tariff  
Protection Given

Sending flax seed to Ireland seems as anomalous as carrying coals to Newcastle, but the war has been full of surprises. Canada is actually supplying Ireland with a considerable portion of her flax seed requirements, mainly from Ontario. More than this, we are rapidly building up a flourishing linen industry of our own. Before the war, nearly all the flax grown in Canada was for seed only. Now, the greater portion produced in Ontario is grown primarily for the fibre. Saskatchewan and Alberta, also heavy flax producers, grow it exclusively for the seed, and Manitoba grows it almost entirely for that purpose.

Ontario's rapid rise in flax growing reads like a fable. Years ago, considerable flax fibre was produced in that province, but the industry slowly went down before severe European competition. In 1915, Ontario had 4,000 acres in flax; in 1916, 5,200 acres; in 1917, 7,372; and in 1918,

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## Million and a Half From Ontario Forests

Pine Forests Are Giving Out But Pulpwood Increasing in Value

The important part that the Crown timber lands of Ontario play in defraying the cost of civil government is indicated by the fact that during the year ended October 31, 1917, the forest revenue collected amounted to \$1,695,703. This is an increase of \$360,382 over the preceding year, and includes \$115,327 collected from limit holders as fire ranging dues.

Nearly 100,000,000 feet less pine timber was cut than during the preceding year. While labour shortage was undoubtedly a factor contributing to this reduction, the fact remains that the cut of pine timber has steadily declined for years, due unquestionably to the progressive depletion of the white pine forests of the province, which formerly produced so large a proportion of the provincial forest revenue.

The change which has taken place in this respect is strikingly indicated by the fact that, while the cut of white and red pine has steadily declined in Ontario, that of tie timber and pulpwood has increased greatly. For example, the number of railway ties (mostly jack pine) taken out during 1916-1917 was more than double the number cut during the previous season.

The total cut of pulpwood for the province was 445,978 cords, of which approximately equal amounts were cut from settlers' lots and Crown timber cutlands.

The pulp and paper industry is each year assuming increased importance in Ontario, as in other provinces, in comparison with other primary forest industries. Beyond question, the pulp and paper business will increase to vastly greater proportions in Canada, both east and west, than is now the case, and this development will help materially toward the payment of Canada's war debt, and the redressing of our present unfavourable trade balance, particularly with the United States.—C. L.

## A CLOVER CROSBUS

The amount of a cheque John Gilbert brought home from Simcoe (Northwest county), Ont., recently for a load of alsike clover seed was \$1,039.87. A neighbour was paid \$869.40 for a load of the same seed.

Get your assets in liquid shape for the new Victory Loan.



BOY SCOUTS PULLING FLAX

Getting labour to harvest Canada's large crop of flax has been a problem this year. The work has been done largely by women, boys, and Indians from the Reserves. In Southwestern Ontario, Mexicans, who had been imported to look after the sugar beet crop, did much of the pulling.

Cut No. 176

## Is Guild Idea in Research Feasible?

Interesting Discussion of Advantages and Disadvantages by Technical Journal

The Canadian Chemical Journal, in a recent issue, publishes a thoughtful and illuminating editorial on the proposal that has been made to group Canadian industries together for the purpose of pursuing research work of common interest to the firms composing the industry. It says in part:

"It is proposed that firms in various industries be grouped, and trade guilds established for more active co-operation along research lines. It is proposed that these guilds enter into partnership with the Government on the community research principle. A battalion of difficulties and problems in the smooth working out of any such scheme present themselves. And yet again this seems a logical treatment of the situation from the standpoint of the Government. Most of these guilds would be expected to support their own research laboratories without much continued Government assistance. Weaker and younger industries would receive more substantial Government support. It is supposed that work undertaken would bear a general relation to the industry, and would be of general value when brought to a conclusion. As a key-note to this outlined plan a Central Research Institute is conceived, incorporating within itself a Bureau of Standards, the services of which would be free to all industries."

Referring to the differences between the Mellon Institute at Pittsburgh, where investigations are financed by the individual firms, and the scheme proposed, the editorial goes on to say:

"There are certain fundamental differences, however, between any existing industrial research institution, and the plans at present under consideration by the Advisory Research Council. These laboratories, from the viewpoint of the industries or firms they serve, are in no sense charitable institutions. Their first care is to think in concrete terms for one particular firm connected with a certain industry. No doubt some of the problems worked out in such places make exceptions to this rule, but the rule holds. In the agreement between the firm and the industrial laboratory, special care is taken that the results of work accomplished shall not be of any value to other competitors in the same business. This is the aim at least, and if general results of value are obtained, they are not given out until such time as the firm establishing the research is well on its way towards its patent rights. As pointed out, some companies are large enough to be entirely self containing. They are already beyond the point where ordinary government co-operation would be of much value or desirable."

"General assistance producing general results, supposed to be of equal value to everyone, does not seem to be just what keen industrial executives have striven for in the past. If the government proposes to lead a guild in special research, it must lead so well

that no firm will meet an undue measure of success by handling its problems through a private institute of research. It is conceivable that occasions may arise where a firm desires to exploit its own idea under cover and win or lose alone. In such cases, the Mellon Institute, or institutes of similar nature, will always possess appealing advantages. It would be well for the government, right at the start, to so modify its machinery that it might possess some of these advantages. Government effort along these lines will be hampered by: lack of flexibility in action; the impossibility of overcoming seniority; ever present Civil Service examinations; non-technical superior heads; probable lack of funds and miserable salaries; no bonus system for success, and no dismissal for failure. These may seem trivial things when considering such a broad general programme, but they are very essential details if the time is at hand when the Government sees fit to attempt to father the industrial research of Canada beyond the well trodden lines now established.

"While the whole scheme of guilds for research is as yet only a possible proposal, there are many points that give it a strong appeal. Our industries are not yet so varied or complex but that they might be moulded into such a scheme. A definite opportunity would be created for those men whom it is proposed to train under assisted fellowships and scholarships. The competition in trade after the war will force weaker industries and firms to tune up their methods of working. The fundamentally unsound habit of hoarding antiquated trade secrets and rule of thumb methods would tend to be abolished, and a broader conception should develop among the men employed in any particular industry, which should assist in expanding trade."

### War Linen Industry

(Continued from page 37)

15,925 acres. The war is responsible. Not only did it seriously affect the European production, but it created a tremendous demand for linen, both for airplane wings and other purposes.

Heretofore, our small linen manufacturing industry depended for its raw material almost entirely on foreign yarns. As the war went on, supplies of these began to dwindle, culminating early this year in Great Britain, the main source of supply, prohibiting the export of all linen yarns. Our linen mills had either to close down or go

into some other line of manufacturing. Some went temporarily into cotton spinning, and a campaign was at once begun for stimulating the flax fibre industry in this country. As a result, production of flax fibre has been tremendously increased, mills are being equipped with linen thread-making machinery, and, very soon, Canada will supply her own linen requirements, send a great deal overseas for war purposes, and ship considerable to the United States and Australia, who are anxious to take any surplus.

Will European competition drive the industry out of business as before? Hardly. The manufacturers have seen to that. Representations were made to the Dominion Government, as a result of which an Order in Council was passed last month granting a bounty on linen yarns made in Canada. Then, too, the manufacturer's old friend, the protective tariff, comes to their aid. Duties of from 20 to 35 per cent on the finished product are imposed, besides a war impost of 7½ per cent; whilst raw material is admitted free of duty. With such encouragement, it will not be the Government's fault if we do not have a prosperous linen industry after the war.—M. J. P.

### FIRE PREVENTION WEEK BEGINS OCTOBER 9TH

In view of the fact that Canada's fire loss amounts to almost \$30,000,000 per annum or \$3.75 per capita of the entire population, the Dominion Association of Fire Chiefs in its recent convention at Toronto, inaugurated a bureau to aid in the prevention of fires throughout Canada. This bureau is seeking to obtain the active co-operation of every fire chief in a Dominion-wide fire prevention campaign commencing October 9th, and asks for the hearty support of the people in its attempt to reduce the inexcusable fire waste from which Canada suffers. The Commission of Conservation heartily supports the movement and trusts that the Fire Chiefs' Association will receive the co-operation of every good citizen throughout the Dominion. As the Commission has repeatedly pointed out, fire waste affects the economic well-being of every individual, impoverishes the country as a whole, and tremendously handicaps our effective participation in the present struggle for world liberty. From the individual, civic, and national points of view, it is the burden duty of every Canadian to assist in the suppression of preventable fires.

### THE FUEL CONTROLLER'S MESSAGE

IN view of the extraordinary demands on the part of the United States due to its war efforts, all must be prepared to conserve coal. At the present time, it is evident that the users of hard coal must supplement this supply by a certain quantity of soft coal and wood. While this war is on we must be prepared to adjust ourselves to conditions that may affect our comfort, especially if it means greater war effort.—Mr. C. A. Magrúth, Fuel Controller for Canada.

## Game Sanctuary for Northwestern Canada

Would Protect Mountain Sheep, Caribou and Moose

The Advisory Board on Wildlife Protection has been drawing attention to the need for protecting important game resources of Northwest Canada, and is now looking into territory to save from destruction mountain sheep, caribou, moose and other large game that are found in considerable numbers in that region.

"From information obtained by prospectors, hunters, trappers and Indians it is estimated that there are probably between 4,000 and 5,000 mountain sheep in the district located by the White, Donjek and Nihi rivers," says Mr. A. L. Bell, of R.N.W.M.P., Whitehorse sub-district in reporting on the advisability of establishing such a sanctuary. "The animals have undoubtedly been driven to that district from the more accessible areas on account of persistent hunting on the part of both white men and Indians. Unfortunately the Yukon game ordinance does not sufficiently cover the preservation of mountain sheep, as under Sub-section 9 of Sec. 9 explorers, surveyors, prospectors, miners or travellers who are engaged in any exploration, surveying, mining operations, or other examination of the territory, and are in need of the beasts, birds or eggs of food, may lawfully hunt, take or kill the beasts or birds, and eggs of birds or other wild fowl so mentioned in this ordinance. Section 23 of the ordinance states, 'with the exception of Section 3 hereof, this ordinance shall not apply to Indians who are inhabitants of the Yukon Territory' (Section 3 applies to buffalo and bison.)"

"I have no doubt that mountain sheep, as well as moose, caribou, and other large game, have been wantonly slaughtered by Indians—and by white men as well—not only for food, but also for feed. The Indians accuse the white men of this, and, on the other hand, the white men accuse the Indians of the same. Unfortunately, the Indians are aware that, under the ordinance they may kill practically as many game as they wish, for food or otherwise.

"I consider the suggestion of creating this area into a sanctuary exceedingly good one, and, if it is carried out, a detachment of one or two men could be established, or a competent game warden employed, with dogs or pack-horse, could patrol the district at regular intervals and keep in close touch with both Indian and white men. This is, in my opinion, the only method by which the game can be preserved."

Press reports say that the salmon run in the rivers of northern British Columbia is especially heavy this year. Fishermen have been making fabulous wages.

Get ready for the Victory Loan

**Commission of Conservation  
CANADA**

Sir CLIFFORD STROTT, K.C.M.G.  
Chairman  
JAMES WHITE  
Assistant to Chairman and Deputy  
Head

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 proper conservation, and the publication of timely articles on town-planning and public health.

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

OTTAWA, OCTOBER, 1918

**CONSERVATION OVERSEAS**

The Khaki University established just behind the firing line in France to provide educational facilities for the boys overseas has applied for 1000 copies of CONSERVATION each month for use in its classes. These, together with other publications of the Commission of Conservation, will be sent over to give the boys a knowledge of Canada's natural resources and the problems connected with their utilization.

**SIFT YOUR COAL ASHES**

It is impossible to make an exact estimate of the coal wasted in Canada each year through the carting away of unconsumed carbon, but it is tremendous. A glance at any ash heap in the spring, after the melting snow or spring rains have washed away ashes from the cinders, will show much coal unconsumed.

The most careful furnace or range firing will not overcome this loss. Coal which lies against the metal firepot only burns from one side, and, when shaken out, it has not done its full duty. This coal when separated from the ash, is again available. All ashes should, therefore, be well sifted to secure this fuel.

You may be able to afford to throw these cinders away. You may, by some means, be able to secure all the coal you require. You, however, owe to your less fortunate brother Canadian to see that he and his children are not compelled to suffer for lack of coal during the coming winter through your waste.

**CARRY YOUR PARCEL**

The Fuel Controller has made it clear that a reduction in the consumption of gasoline is imperative. This, added to the already great shortage of man-power, is placing a heavy burden upon the merchant. To overcome the man-power shortage, he has, in many cases, introduced motor delivery, that where ground might be covered by available help. He is now met by the shortage of gasoline.

Thoughtless Canadians are the cause of much of this unnecessary consumption of man-power and gasoline: from 60 to 75 per cent of deliveries are lightly carried by purchasers. Forty per cent of grocery deliveries are the result of unthinking housewives, who do not anticipate their

household needs and, consequently, require several deliveries where one would suffice.

The delivery of parcels must be paid for by the consumer. While not a direct charge, it is added as a percentage of the merchant's cost of doing business. It has been estimated that it costs from 5 to 6 cents per delivery. This amount, of course, is not covered on small pu purchases, consequently, the more thoughtful customers pay for the unthinking ones.

Merchants, in large measure, have the remedy in their own hands. They can specify the value of the order they will deliver free, also the weight or bulk, and make a direct charge for all others. This would at once reduce the volume of deliveries, the number of men unnecessarily employed in delivering, and the consequent consumption of gasoline. Furthermore, it would have an appreciable effect on the present high cost of living.

**Do Not Favor Farm**

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things they considered worth while before will no longer attract them. They consider, for instance, that the question of making money is not the greatest thing.

The system under which the wounded man lives, and is encouraged to do nothing, in the hospital, really trains him to be a loafer. He is deliberately trained to do nothing. The first thing to do with the average man when he comes back, is to get him gradually broken in to the idea of working and becoming a citizen of the community. I know myself—I came back sick and I can speak from personal experience—that it has taken me practically to the present time to get the point of view of the civilian that things here are worth while. The man at the front has passed through great experiences, and, when he comes back, the ordinary things of life seem dull and unprofitable. In some way, he has to get out of that attitude, which is largely mental.

Economic conditions after the war will play a large part in the absorption of the returned soldiers. Whether competition be great or not, I do not think these men will go on the land unless some means can be provided whereby they can live together and have a community life. I do not think they will consider for one moment going back on those large farms on the prairie.

—Col. George C. Nasmith, M.D.

A recent Order in Council permits American vessels during the year 1918 to land fresh fish in British Columbia ports for shipment in bond to the United States.

There has been an alarming decrease in the number of partridge or ruffed grouse in New York state and sportsmen are petitioning for a closed season.

It takes 20 tons of wet kelp to make 1 ton of ash and the ash contains between 8 and 10 per cent pure potash.

The most successful growers use stable manure at the rate of 10 tons to the acre for raspberries.

**CONSERVATION NOTES**

The war is doing something for civilization. It is estimated that table waste in Toronto has been reduced 75 per cent since 1914.

This summer, London, Ontario, has transformed 400 vacant lots into gardens. This area, some 200 acres, formerly grew nothing but weeds.

Do not use artificial preservatives or "canning compound". They are not only harmful to health, but unnecessary.

Montreal has 18,639 city lots, heretofore vacant, under cultivation this year. The estimated value of the vegetables grown on them is \$500,000.

A private company will be granted a 30-year permit by the Dominion Government to graze reindeer in the Northwest Territories.

In the last five years the Pennsylvania Railroad Company has practically doubled the coal efficiency of its locomotives at an increase of 30 per cent in capital cost.

Save fuel, Mrs. Housewife, by keeping the bottom of your pots and kettles clean. In steam boilers, one-sixteenth of an inch of soot decreases efficiency by 50 per cent.

Northern Ontario and New Brunswick potatoes have proved to be the best for seed and will be extensively used next year. Harwich and Blenheim growers, in Kent county, have decided to import large quantities of seed from New Ontario, one grower alone taking a car load.

The Ontario Government is investing half a million dollars in feed concentrates to tide the farmers over the winter months when transportation will be monopolized by coal and grain. Standard feed will be manufactured and sold through millers at \$56.50 per ton for dairy feed and \$57 for hog feed, in car lots.

The season for hunting moose and deer is now in full swing in New Brunswick. This year the hunters are required to take out of the woods all the game they kill and they may dispose of it in any way they like except by selling it. Every hunter who applies for a game license has to take an oath that he will report any infractions of the game laws he sees.

Before a gathering of 400 rural teachers and 80 school inspectors at Guelph recently, Dr. H. J. Coody, the new Minister of Education for Ontario, intimated that medical and dental inspection would be made compulsory in rural schools. "The greatest conservation of all is that of human life," said Dr. Coody, "and the nation must get out of the bodies of its people the very best that is in them."

The Women's Institutes and the I. O. D. E. of Perth county have opened a community canning centre at Stratford. The first-named organization will provide the materials and the second will provide the labour. This community centre will can large quantities of perishable foodstuffs for use in military hospitals. The Red Cross Society has offered to supply all the cans, sugar, vinegar and spices needed.

This is the time of year to guard against typhoid. Chatham, Ont., has had a serious epidemic of several hundred cases. The hospitals were overflowing and physicians were taxed to exhaustion. So far it has been impossible to locate the cause. Dr. Bell, of the Provincial Health Branch, is now investigating. Kingston has also had a typhoid outbreak of a less serious nature. Every precaution was taken by the military to protect the troops stationed there. The water supply has been found pure.

The first community canning factory in Elgin county has been opened at Mapleton, Ont., six miles from St. Thomas, by the local Women's Institutes. The products of the factory—formerly a cheese factory—will be used exclusively by the Red Cross, both at home and overseas. Apple and berry jelly, pickles and corn and peach, elderberry and plum jam will be put up as well as about 10,000 chickens to be donated by the farmers of the county.

**A NEWSPAPERMAN'S OPINION**

"I wish your monthly issue of CONSERVATION could be scattered broadcast throughout Canada," writes H. P. Moore of the *Acton Free Press*.

**A NEW INDUSTRIAL DISTRICT**

The Toronto Harbour Commission has published a splendidly illustrated booklet, "A District Created for Manufacturers", describing the large new industrial district reclaimed on the waterfront, and pointing out the advantages Toronto offers to manufacturers.

Do not over-dry fruits and vegetables or they will not come back to their natural form when soaked in water.

**ESTIMATED UNITED STATES PRODUCTION OF ANTHRACITE**  
*United States Geological Survey*

	1918		1917	
	Week	Coal year to date	Week	Coal year to date
September 7.....	1,617,597	45,646,000	1,671,448	44,561,000
Daily average.....	223,519	338,111	234,290	330,081
September 14.....	2,038,000	47,733,000	2,065,738	46,566,736
Daily average.....	348,000	338,551	334,290	330,250

## Are Insurance Costs Going to be Reduced?

Insurance Men Said to Have Held an Important Conference With This in View

The Report of the Commission of Conservation on "Fire Waste in Canada", which contends that the cost of conducting fire insurance business in Canada is too high, due largely to high commissions paid to agents, appears to be bringing remedial action. A press report says that an important conference, extending over a week, was held last month in New York City by officials of the Canadian Fire Underwriters' Association and the executive heads of several large United States insurance companies, to discuss this very problem. It is reported that recently representatives of the companies and their agents met for the purpose of arriving at some means of reducing commissions but no definite decision was reached.

It is understood that at least two provincial governments are considering the advisability of enacting legislation to deal with the matter if the companies do not act with promptitude.

Salient extracts from "Fire Waste in Canada", dealing with this important phase of the fire insurance business, are as follows:

"Of greater importance than profits in affecting the actual cost of fire insurance to the people of Canada is the expense of carrying on the business. That approximately 30 per cent of all premiums should be expended implies extravagant administration. If a reasonable proportion of this amount were used in attempting to prevent fires, the expenditure might be justified, as is the case with boiler insurance where the cost of inspection to prevent losses exceeds the amount paid for losses. It is doubtful, however, if more than one per cent of the fire insurance premiums is directly applied to fire prevention work, while approximately, 21 per cent is distributed in agents' commissions. This is obviously a large expenditure upon middlemen.

"The root evil of the insurance business and one of the greatest factors in the excessive fire waste in Canada is undoubtedly the method of compensating agents. At the present time, commissions of approximately 25 per cent of the premiums are paid upon preferred, 20 per cent upon mercantile, and 15 per cent upon manufacturing and sprinklered business, although these rates are greatly exceeded by some companies in certain places. In the larger cities, such as Montreal and Toronto, commissions are determined by competition and as much as 40 and 50 per cent is frequently paid for good business. Agents control the business and they are justified in driving the purchase price as high as possible. On the other hand, the companies want the business at the least expense consistent with maintenance of quality. Again, whether agents are compensated by salary, commission or profit sharing is of no consequence to the public unless fire insurance differs

essentially from other forms of business. This, however, is the crux of the whole situation. Rates of premiums in fire insurance are high or low in accordance with the physical susceptibility of a risk to fire loss. Poor risks demand high premiums. The agent receives a greater compensation for insuring risks at a high premium than at a low premium."

## New York to Stop Stream Pollution

Reclaiming Industrial Wastes Will Help to Solve Problem

Dr. Henry D. Ward, a scientist of international reputation, has been appointed by the New York State Conservation Commission to find a solution in that state for the problem of stream pollution and its corollary, the utilization of industrial wastes.

On making an initial investigation, Dr. Ward found that many large plants have their own chemists and are now utilizing much material hitherto wasted. Tannery wastes are being reclaimed for use in glue and fertilizer. Sulphite waste liquor from pulp mills, formerly discharged in large quantities, to the great detriment of life in the streams, is now handled at some places to yield alcohol, acetone and binder material. The binder material is used as a substitute for oil in road making and in the manufacture of coal briquettes out of coal dust, thus transforming an article worth \$1.00 a ton to one worth \$8.00.

## DISTILLATION OF WOOD

The destructive distillation of hardwoods is the only important distillation industry in Canada where wood is used as raw material. There are now 11 plants in Ontario and Quebec, and the industry is well organized. It is gratifying to note that manufacture is carried beyond the stage of the crude products, where so many of Canada's industrial activities cease, and that the specially refined and derived products are produced in Canada for local and export trade. In the limited list of chemicals which are regularly exported from Canada there are only three of much importance, namely, calcium carbide, acetate of lime and methyl alcohol, the last two of which are entirely produced by hardwood distillation. It is important to remember that practically all the wood alcohol and acetic acid which are so essential to modern civilization are produced by the destructive distillation of hardwoods. The plants in Canada consume, in the aggregate, over 500 cords of wood per day. Maple, beech and birch are the principal species used, although oak, hickory and other hardwoods are suitable if obtainable.—Dr. J. S. Bates.

## NEWFOUNDLAND RAILWAY TO DEVELOP RESOURCES

The Reid Newfoundland Railway Co. has established a natural resources department under J. McNeil Forbes, to explore, inventory and develop the important mineral, timber,

## In This Supreme Hour

When the flower of Canada's manhood is fighting gallantly and victoriously for freedom and humanity

When every energy of patriotic citizenship should be directed towards winning the war

When those stupendous issues largely depend upon the unhindered production of Canada's factories, fields and workshops, and the individual thrift and carefulness of her people—

## Canada is Heedlessly Burning \$30,000,000 a Year

On economic grounds such waste is folly. Canada is faced by a national debt of almost \$1,250,000,000. Can the people of Canada afford a national bonfire costing \$30,000,000 a year? On patriotic grounds, such waste is a dereliction of duty. The ravages of fire cost more than money. Fire takes its toll in food, in munitions and in clothing and equipment, all of which spells loss of life "over there". Germany's strongest ally is the fire scourge of the United States and Canada.

This fact should be brought home to every individual on

## Fire Prevention Day, Oct. 9, 1918

In Ontario, a Proclamation has been issued by the Lieutenant Governor calling for the public observance of this day. In many of the larger cities and towns throughout the other provinces, steps will be taken by the local authorities to clean up and remove the numerous hazards which occasion fire. There never was such an opportunity for impressing the people with the necessity of curtailing Canada's fire waste. The pulpit, the platform and the press are urged to play their part in this campaign.

While public opinion is aroused, municipalities requiring better fire protection facilities or needing more effective building and fire prevention ordinances should make the necessary provisions. On all technical questions, municipalities and property owners may obtain free advice from the Commission of Conservation.

Patriotic duty and civic pride demand that every citizen

## Observe Fire Prevention Day

agricultural and water-power resources on the lands owned by the company. It is hoped to create a flourishing farming district on the western side of the island. A large staff of technical men will be employed on the work during the next four years.

## HOW BRITAIN PROPOSES INCREASING POWER OUTPUT

The coal used in Great Britain could be made to do three times its present work if converted into electricity at large central power plants, according to the report of the British Coal Conservation Sub-committee to

the Ministry of Reconstruction. They are now about six hundred power stations, generating an average of 50 h.p. each, scattered throughout Great Britain, and it is recommended that these be replaced by sixteen "super-power" stations from which the mission lines would radiate to all parts of the country. The generators these would produce from 20,000 to 50,000 horse power each.

The Commission of Conservation report on Rural Planning and Development is being used as a text in rural economics in the University of Kan-