

Conservation

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No. 5

Has Splendid Fire Prevention Record

Massey-Harris Company Has Loss of Under \$500 in 39 Years. Sprinklers Largely Responsible

"A sprinkler system working under proper conditions is, without doubt, the best automatic fire protection there is," writes Mr. James Corbett, who for 29 years has been chief of the private fire protection system of the Massey-Harris Company at Toronto. "The allowance on premiums by the insurance companies soon pays for the installation and the owner has a protective device he can rely on, providing it is kept in proper condition, i.e., free from frost, with goods piled a proper distance away from the sprinkler heads and feed valves easily accessible, kept wide open and sealed, if possible."

Mr. Corbett approves of the suggestion in CONSERVATION for March that basements be provided with dry sprinkler systems, with outside connections to which the fire brigade may attach its hose, but suggests, in addition, that the water should be admitted to the system by an automatic trip valve operated by the fusing of a link, several of which in the basement could be connected with the valve. "The great advantage in this," he states, "is the instantaneous operation of the sprinkler heads, which means much in minimizing the loss. A delay of three minutes, as little as could be reasonably expected for a fire department to make hose connections and turn on the water, might mean the destruction of thousands of dollars worth of property."

"Those who have had experience with sprinklers," Mr. Corbett continues, "will agree that all basements of stores and factories should be equipped with them. In all the Massey-Harris factories, two in Brantford, one in Woodstock and the large Toronto plant, the combined loss in thirty years has been less than \$500. All these plants are 100 per cent sprinklered. Many fires have broken out during the period and, while all were not controlled by sprinklers, we have yet to find where the sprinkler system has failed."

"A basement fire occurred a few months ago in Toronto in which a loss of \$25,000 was incurred. If \$500 had been spent in equipping this basement with a sprinkler

system, the loss would have been very small. Basement fires are the worst that firemen have to contend with; for much smoke is generated, which has no chance to get away. Often a hose stream, turned into a basement window, does more damage than the fire itself."

Private Aid Given in Pulpwood Studies

Private Firms Recognize Importance of Regenerating Cut-over Lands

During the coming season, the Commission of Conservation will continue, under the supervision of Dr. C. D. Howe, of the Faculty of Forestry of Toronto University, the study begun last year, of the conditions on cut-over pulpwood lands in Eastern Canada. Arrangements for co-operation and collaboration have been made with the provincial governments of Quebec and New Brunswick, and it is anticipated that similar arrangements will later on be made as to Ontario. The co-operation of the Laurentide Co. and of the Riordon Pulp and Paper Co. has been secured, under which small parties will be established on the limits of these companies, to make detailed studies of the conditions on representative areas, the companies sharing in the cost. The financial assistance given the Commission by these companies is a unique experience in government scientific work and testifies to the value of the investigation.

It is proposed to establish a limited number of sample plots, for the more intensive study, throughout a period of years, of the life history of the forest, with a view to determining the specific causes of the changes which take place in its composition, thus gradually establishing an adequate scientific basis for technical forest management.

In view of the extreme importance of the forest resources of Canada in the economic life of the country, for both war and peace, studies of this character are regarded as being equally as important as many other lines of scientific research looking toward the development and re-construction of our economic life after the war.—C.L.

Floods caused a property loss in Pittsburgh of 17 million dollars in the 20 years preceding 1916.

Army Hospitals Show How to Save Fats

Salonika Hospital Recovers Fifty Tons Monthly from Waste

At the extensive base hospitals near Salonika, approximately 100,000 pounds of fats are recovered each month from dishwater and table scraps. This quantity has been easily obtained without depriving the men of their 'dripping' and suet, and is sufficient to produce about 80,000 pounds of hard soap, 20,000 pounds of soft soap, as well as considerable quantities of dubbing and glycerine for the manufacture of ammunition.

This fat is obtained from the following sources:

- (1) All the bits of bacon rind and other fats that are left at table.
- (2) The skimmings from stew. (3) Grease from boiled bacon or ham and fat from pans in which onions, tomatoes, or eggs have been fried.
- (4) Bully beef tins. (5) Bones, especially marrow bones. (6) Grease from dishwater.

The grease from the dishwater is recovered by means of a simply constructed box trap placed near the wash sinks. All animal fats are carefully rendered in large caldrons to prepare them for the uses to which they are to be put.

Such materials should be conserved in Canada. They are of great importance and the waste in large hotels and restaurants is very considerable.

CANADA SHOULD CAN HER OWN SARDINES

Canada imports annually, canned sardines valued at over \$100,000. The major portion of these imports are from the United States, Norway, the United Kingdom and Portugal, in the order named. Oddly enough, only 20 per cent of the New Brunswick catch is canned in this country. The remaining 80 per cent is shipped to Maine to be canned by American canners. The Canada Food Board is at present taking active steps to have these fish canned in Canada. If this is done it will be, obviously, a distinct advantage to Canadian consumers.

Good Food Fishes Are Being Wasted

Are Thrown Overboard Because Public Does Not Know Their Good Qualities—Publicity Needed

The soil-miner of the prairies, who persists in growing nothing but wheat, has his counterpart in the deep-sea fisherman who throws overboard many varieties of fish, retaining only those which can be easily marketed. Both are wasteful and both are destroying a heritage that should be passed on to many succeeding generations unimpaired. In the case of the fish, however, the demands of the market are the deciding factor. Consequently, it is essential that persistent efforts should be made to popularize species of fish which are now little used, but which are excellent food.

One of these, is the Canadian plaice. This fish has a very limited sale in Canada, in spite of its valuable food properties and although this species is in demand in other countries. Mr. A. G. Huntsman, in his booklet on "The Canadian Plaice," states that "one is certainly conservative in stating that several million pounds are lost annually, while a much larger quantity could doubtless be obtained if those spots were fished where the plaice is most abundant." Again, "if the plaice (at present thrown overboard) were marketed at current rates for the fresh fish, it would mean for the fishermen an additional revenue of about \$300,000 and the retail value would be from \$500,000 to \$1,000,000 yearly."

He also states that "the plaice is sweet and of fine flavour, is not oily, but rather similar to the flounder or sole, though having a distinctive texture and flavour. . . . It is suitable for use throughout the year, seeing that it lives in such cold water, but it is in better condition in the autumn and winter after the season's growth and before the spring spawning condition is reached. Also, from the standpoint of shipping conditions the cold part of the year is preferable, but from December to April ist, it will not be possible to obtain it in the gulf of St. Lawrence because of the ice, although to the south, it will usually be possible to get it at any time of the year."

(Concluded on page 18)

Caribou Can't Offset Shortage in Meat

Millions of Barren Ground Caribou Roam the Northwestern Regions of Canada

To offset the present serious shortage of meat supplies, the Advisory Board on Wild Life Protection has had under consideration the possibility of utilizing the countless herds of Barren Ground Caribou in the northern regions of Canada. From time to time travellers and others have stated that these herds could be utilized to relieve the meat shortage. They have been estimated to number from 110,000,000 to 30,000,000 animals; but, naturally, such estimates can be little more than guess-work. Nevertheless, we know that these animals may be numbered by millions. Once a year, during the winter months, they reach, in their southward migration, the northern limit of tree growth, extending from Churchill on Hudson bay in the east, to the neighbourhood of lake Athabaska in the west.

At present, labour and adequate means of transportation and storage present unsurmountable difficulties. Reaching the herds during their winter sojourn also presents peculiar difficulties because there is no certainty that they will be found on their usual wintering grounds nor that they will follow their usual route when travelling southward.

Should any method of making use of such a natural meat supply be found feasible, it would be necessary to put it into effect under government administration. Naturally, the control which it is possible to exercise under the Northwest Game Act would prevent any exploitation of this valuable natural resource by private interests.

It is desirable to direct attention to the fact that the barren ground caribou have been seriously reduced in numbers in Alaska and practically exterminated in certain regions, such as the Arctic coast of Alaska. The result is that domestic reindeer of Siberian origin are now, to some extent, taking their place. However, we have still in Northern Canada, immense herds of caribou to supply food and clothing to the native population. At the same time, it should be realized that the caribou in Canadian territory have been killed off to such an extent in the Mackenzie Delta region that, according to the statement of Dr. R. M. Anderson, the Eskimo there are importing skins of domestic reindeer from

BIG FOREST REVENUE

Since 1867, the date of Confederation, the Government of the Province of Quebec has derived a total revenue from its forests of more than \$42,000,000. During the year ended June 30, 1917, the revenue from this source was \$1,568,157, of which \$347,505 was from ground rent and \$1,115,892 from stumpage dues. The greatest total forest revenue was during 1914-1915, when the amount collected was \$1,736,605. These revenues form an important item in the support of the civil government.—C.L.

Help yourself and your country by buying War Savings Certificates.

HOW TO MAKE POTATO BUTTER

Potato butter is recommended by the British Ministry of Food as a cheap substitute for butter, being made in England at a cost of less than 10 cents per pound, as follows: Peel the potatoes and boil until they fall to pieces and become floury. Then rub through a fine sieve into a warmed basin 14 ounces of potatoes and add 2 ounces of butter or margarine and 1 teaspoonful of salt. Stir until smooth and then mold into rolls and keep in a cool place. To make the appearance approvable use butter colouring, and if intended to keep beyond a few days, a butter preservative should be added.

Factors in Production

6. Harrowing Corn Kills Weeds

Eternal Vigilance Is the Price of Good Corn

The spike-tooth or smoothing harrow is an excellent weed killer if used at the right time. Weeds are most easily killed when they are very small or just coming through the ground. Harrowing at this time is much more efficient in destroying them than deeper cultivation later in the season.

In a normal season, the cultivation of corn should begin by harrowing lightly before the corn comes up, and this should be followed by another harrowing just after the corn is nicely through the ground. If the planting has been followed by rain, the first harrowing will break the crust and help the corn to come up. These early harrowings will also help to conserve moisture by stirring the top layer of soil and forming a mulch, which is exceedingly important in a dry season.

The ordinary spike-tooth harrow is well adapted for this purpose, but, if the tilting harrow can be used with the teeth tilted back, it will give much better results.

Weeds are enemies. They steal plant food and moisture, and often choke the very life out of the young cultivated plants. In their own way, they are as bad as the Huns and should be fought as determinedly. As the machine gun is trained against the enemy by the soldier, so should the farmer train his machinery against weed enemies and maintain eternal vigilance in his fight against them.

—F. C. N.

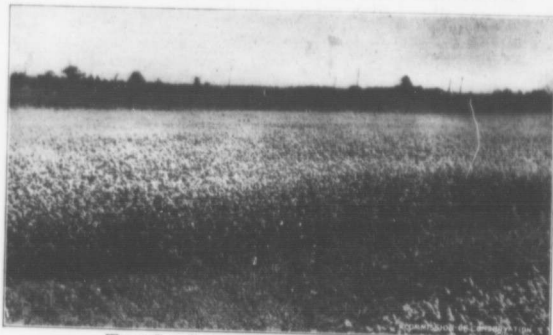
SUBSTITUTES IN SEA FOOD

The following substitute fish are suggested by the New England Fish Exchange for saving money as well as meat: Instead of haddock, blue fish, or smelts at 30 cents a pound, use whiting at 8 cents. Instead of halibut, cod steak, or swordfish at 20 to 50 cents, try shark at 10 cents a pound. Instead of scallops, try squid at 8 cents a pound. Instead of mackerel, salmon, and other fancy fishes, use ray at 8 or 10 cents. These substitutes fish are all considered delicacies abroad and bring high prices there. They are on sale at the fish stores in foreign sections of our cities, and reported in good supply, with no indication of an immediate increase in prices.

—U. S. Food Administration.

HAS NOT RELAXED GAME LAWS

According to a statement by Hon. O. F. Daniels, Attorney-General of Nova Scotia, that province has not relaxed its game laws in any particular. He reports an encouraging increase in game.



WEEDS GIVE COMFORT TO THE ENEMY—SMOTHER THEM

Col No. 87

Alaska for clothing, a fact that indicates the difficulties of the problem of utilizing caribou to augment the meat supply of Canada.

Good Food Fishes Wasted

(Continued from page 17)

Small quantities of this fish have been sold on the Toronto market within the past year, where it was disposed of as flounder and sole. During the summer and on parts of the coast with deficient shipping facilities for the fresh fish trade, the curing by drying or smoking should be considered.

The work of the "soldiers of the soil" will doubtless result in the production of large quantities of additional food. Why not assist our farmers of the fisheries to husband and market the great stores of food fish that are thrown away every year merely because the public does not appreciate their food value?—A.D.

Use honey, maple syrup, molasses and brown sugar instead of granulated sugar. The first three of these cannot be shipped to our Allies in Europe as they require too much shipping space. Brown sugar cannot be shipped as it ferments. Use these commodities at home so that granulated sugar can be shipped abroad.

Save bacon until Berlin is taken.

Smothering Weeds by Sowing Buckwheat

By a smother crop is meant a crop sown for the purpose of smothering out noxious weeds. Couch grass often becomes very troublesome, but can be controlled by the use of a smother crop. Buckwheat is very commonly used for this purpose. It is sown thickly on well prepared land. It comes up quickly and grows rapidly, and thus gives the weeds very little opportunity to develop. The land on which it is intended to sow the buckwheat should be well tilled and every effort should be made to weaken or kill the weeds before sowing the crop. This will help the smother crop to grow more rapidly and to more perfectly perform its function.

Splendid results were obtained in 1917 on two of the farms where illustration work was being done by the Commission of Conservation in Dundas county. The buckwheat was sown at the rate of one bushel per acre. It completely smothered out the weeds and, at the same time, gave a good crop of grain when cut and threshed in the autumn. One thing must always be borne in mind in sowing a smother crop and that is, it must be sown thick enough to smother the weeds.—From "Handbook for Farmers," published by the Commission of Conservation.

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

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OTTAWA, MAY, 1918

PLAYGROUNDS

If the men of to-day in our cities and towns could be persuaded to look back to the days of their boyhood, and realize what the open air meant to them, there would be no need to plead for their support on behalf of playgrounds for our boys.

It is said that in "Who's Who in Canada," a compilation of the prominent men of this country, eighty-five per cent of the names are those of men born on the farm. Only one valid reason can be given for this large proportion of country-born Canadians reaching prominence, and that is the healthy conditions under which they started life. Born beyond the crowded streets of our larger towns and cities, with plenty of good pure air and ample room for healthful play and recreation, they commenced their careers under conditions almost ideal for the building up of strong bodies and active minds, and in the strain of business cares, this great handicap has told in their favour.

Conditions have changed, however, in this country, and we now have in our cities many thousands of lads without the opportunities that were available to our to-day leading men. Crowded streets, tenements, apartment blocks, and tenements are accumulating, and in such unhealthy surroundings many children are reared. No space is available for their games except the street, and the long list of street accidents demonstrates the use that is made of them by the children in answering the call to the open.

The establishment of playgrounds for the children is one of our greatest social needs. True, some cities have opened playgrounds, and their popularity demonstrates how great is the need.

The expense of fitting up playgrounds is not great, and should be met by public appropriation. Healthful play to build up the body is as necessary as schools to educate the mind, and should receive a due proportion of attention.

The Duke of Wellington gave credit to the playing fields of Eton for the winning of the battle of Waterloo, and in this he paid a

tribute to healthful play and emphasized the need of playgrounds that the boys of our cities—our coming men—may have the advantage of healthy exercise under safe and sanitary conditions.

**Heavy Destruction
By Rats and Mice**

Australia Suffers Heavily—Loflic Habits of These Animals

On no occasion have the destructive powers of mice been more strikingly demonstrated than during the past year in Australia. Owing to the lack of ocean transportation, vast quantities of grain destined for export have accumulated in New South Wales and Victoria. A plague of mice developed and the destruction to the stored grain has been enormous. In some places, the ravages of the mice were so great that huge stacks of grain were reduced to what resembled heaps of debris in a few months. The Wheat Board in New South Wales organized a campaign of destruction. In one place, the catch for two nights totalled seven tons of mice. In another place 56,000 mice were caught in four nights. This was an exceptional outbreak, but it serves to show the destructive power of these small creatures in the mass. Everywhere everywhere there is greater need than ever for the conservation of every bushel of grain and every pound of food.

When the prolific habits of rats are taken into account the extent of the menace they constitute will be made still clearer. The brown rat begins to breed when about three or four months old; they breed from six to ten times a year and produce on the average ten young in a litter. If we imagine a pair of rats breeding at this rate

for three years without any deaths among their progeny at the end of that short period the number would be increased to over 350,000,000 rats.—Dr. C. Gordon Hewitt in Ninth Annual Report, Commission of Conservation.

**FEEDING GRAIN TO WILD
FOWL IS PROHIBITED**

One of the chief methods employed to secure large bags of ducks and other wild fowl is to attract them to the places where shooting "blinds" are placed by scattering broadcast grain of various kinds. The ducks are attracted in greater numbers to such food and they are thus killed more easily than by other methods of hunting. Early in the war the feeding of grain to game birds was prohibited in England as a conservation measure. In order to conserve grain of all kinds in this country, the use without a written permit from the Canada Food Board, of any wheat, barley, oats, rye, Indian corn, buckwheat or peas for the purpose of feeding or decoying migratory wild fowl has been prohibited on the recommendation of the Board. This will result in the saving of a considerable amount of grain that is generally wasted, as the amount actually eaten by such methods is but a small proportion of the quantity used, and the grain that is actually eaten does not contribute to the production of meat to an extent that justifies its use in this manner. While this prohibition may reduce the sizes of the "bags" in certain localities, where this method of decoying is employed, it will not prove a serious handicap to legitimate duck-hunting and it will result in a saving of food supplies to the production of which the country is bending every effort.

BUY YOUR WINTER EGGS IN MAY AND JUNE

Eggs laid in April, May and early June keep better than those laid later in the season. If properly treated, they will keep in perfect condition from eight to twelve months. If the eggs are to be boiled, the larger end should be pierced with a needle point before putting them in the boiling water.

The eggs, to begin with, must be fresh and clean, not washed clean, but laid clean. If the shell of an egg is not clean, use it at once. If there is a spot of soil on the shell, the water glass does not come in contact with the shell and the egg will decay.

A quart of water glass in a five-gallon crock or agate-ware container will suffice for 15 dozen eggs. Clean the crock thoroughly, scald till hot, wipe dry and stand in the sun, if convenient.

Boil 9 quarts of water, allow it to cool thoroughly, then add the water glass and stir well in the crock. Stand the crock in a cool dry place and do not move unnecessarily after the eggs are packed. Put the eggs loosely, but carefully, in the solution, leaving a depth of two inches or more over the top layer of eggs. Tie heavy oiled paper over the crock to prevent evaporation. For more than 15 dozen eggs, two crocks are preferable to one larger one. After using the water glass once, it must be thrown away.

If water glass is too expensive or is unobtainable, add 3 pounds of unslacked lime to 5 gallons of water. After the lime has dissolved and settled, carefully dip off the clear water and pour over the eggs as with water-glass.

DO NOT POUR THE WATER GLASS OR LIME WATER OVER THE EGGS TILL IT HAS THOROUGHLY COOLED

**New Brunswick Has
New Forestry System**

Patronage Eliminated and Well Qualified Men Appointed—Ample Funds Provided

Through the recent enactment of the new Forest and Forest Fires acts, the province of New Brunswick has aligned itself with the most progressive governmental agencies on the continent in forest conservation. The administration of the Act will be under the Minister of Lands and Mines. A provincial forester will be in charge of the administration of scaling, enforcement of cutting regulations on Crown lands, continuation of the forest survey, forest fire protection, and the enforcement of the laws and regulations concerning fish and game. The organization of the staff is now under way.

The merit system of appointments will be strongly promoted through the appointment of a Forestry Advisory Commission, consisting of the Minister and Deputy Minister of Lands and Mines, the Provincial Forester, one prominent lumberman selected by and representing the licensees of Crown timber lands, and one other lumberman or forester associated with the ownership or management of Crown-granted forest lands. This Commission will supervise appointments, which are to be based upon a practical examination, written and oral, designed to test the knowledge and ability of the applicants to perform the duties of the office which they seek.

The provisions relative to forest fire protection are based upon the most advanced legislation in the several provinces and states. The organization will cover Crown timber lands, licensed and unlicensed, as well as the larger bodies of timber land in private ownership. A fire tax of one-half cent per acre per year is to be collected from licensees, supplemented by an allotment from the wild land tax and by an annual appropriation which will bring the Protection Fund up to \$100,000 per year.

It is to be anticipated that the consolidation of all these lines of forestry activities in a single organization, under a technically-trained head, will make most decidedly for efficiency in results and economy in administration.—
C.L.

**PLANTING NOVA SCOTIA
LOBSTERS IN U.S. WATERS**

During 1917, the Massachusetts Fish Commissioner planted 37,000 Nova Scotia "short" lobsters in state waters from Cape Cod to Provincetown. These lobsters were all below the minimum length prescribed by the laws of Massachusetts and had been seized by the state authorities for infraction of the law. In addition, thousands of other "short" lobsters died in transit and had to be buried.

Saskatchewan And Destruction of Game

Respecting the more generous use of our game for the purpose of eking out our meat supply during war times, I might say that outside of the Indian population there is very little hunting of big game or even feathered game in Saskatchewan for the exclusive purpose of supplementing our meat supply, the sport being a primary consideration and the meat thus secured being quite secondary. During the past number of years, in order to provide against the reduction of our wild life, we have been legislating in the direction of greater and greater restrictions in the annual fall hunt engaged in by our Nimrods. Last session the Game Act was again amended so as to conform with the Migratory Bird Treaty between Great Britain and the United States.

While a Game Act is probably one of the most transient pieces of legislation we have, still we feel we have got the foundation of it just where we desire after twelve years of long and arduous work. In view of this, it would be with some reluctance that the people would consider the turning of our game into a commercial article for the purpose of barter and sale.

If I might make a suggestion, I am of the opinion that the prohibition as a war measure of the slaughter of young lambs and calves would conserve and increase our meat supply in a far more practical manner than any attempt at commercializing our game supplies could accomplish.—*Letter from Hon. W. R. Moherwell, Minister of Agriculture, Saskatchewan.*

UTILIZING FORESTS FULLY

The by-products of the lumber industry constitute an enormous amount of wood material which, for the most part, are now going to waste. Utilization is retarded in Canada on account of the scattered population and limited markets as well as the technical nature of many of the processes. It is estimated that the logging waste which is left in the forest represents about 25 per cent of the original tree. Obviously the opportunities for utilization are limited, and the main problem in Canada, at present, is to rigidly enforce the proper burning of slash in the wet seasons to remove this serious fire hazard and leave the woods in better condition for second growth. Other losses in the forest are due to fire, insects, fungi, wind, thick growth, scattered growth, loc. predominance of inferior species, failure of mature trees to come up to cutting standard, inaccessibility of timber and land-clearing operations. These are some of the problems which confront the forester, and the importance of the forest protective movement is emphasized when we

remember that forest fires in Canada have destroyed perhaps ten times as much wood as has been taken out by the lumbermen. The federal and provincial forestry branches and the various associations have done a great deal to safeguard our widespread forest resources and to secure the co-operation of the public in overcoming carelessness in the woods.

—*Dr. J. S. Bates.*

GROW VEGETABLES AND ROOTS TO SAVE GRAIN

Roots and vegetables are not replacing cereal grains in this country to anything like the extent to which they are capable. We are told that the people of Germany and the prisoners of war there are being fed largely upon turnip soup. To save the grain and meat for hungry France and Britain, we must fight the enemy with his own weapons in this food problem and grow and eat more roots and vegetables.

On thousands of farms in Canada, where roots would grow well, there are none grown. It is claimed that root crops involve too much labour. It is quite true that if they are grown on a large scale, much labour is required, but a small patch on every farm would help wonderfully. Hogs are often wintered on expensive grains when, if roots were fed in conjunction with grain, much less grain would be required. A small area of root crops can easily be cared for at times which will not interfere with haying and harvest. Sugar mangels with a little grain will produce thirty pigs much more cheaply than grain alone. This is not only an opportunity for patriotic service but is a good business proposition and means more economical production of pork and a decided saving of cereal grains.—*F.C.N.*

HIGH-PRICED PULP WOOD IS STIMULATING SETTLEMENT

Settlement in the northern portions of both Ontario and Quebec is being stimulated by the higher prices for pulpwood which, a few years ago, was looked upon as a detriment by the settler. Now it is a decided asset, with the result that he is less inclined to set fires indiscriminately or to let them run at large.

This situation, however, contains a real danger for all the provinces of Eastern Canada. There is a possibility that the demand for timber will lead to settlement of areas where the soil is unsuitable for agricultural production. The remedy lies in making a timber and land classification survey followed by proper government control. Already in New Brunswick and in the Trent Watershed of Ontario there are deplorable examples of the results of permitting settlers to try to eke out a living on land on which they should never have been allowed to settle.

BUTTER FOR THE ALLIES

In Toronto, in 1916, 766,329 pounds of butter-fat were sold and consumed as cream. In addition, 778,479 pounds of butter-fat were made up in the form of ice-cream, or a total of 1,544,808 pounds of butter-fat utilized in these ways.

If all cities in Canada used the same amount of cream and ice-cream as Toronto does, it would amount, at the very least, to 9,620,000 pounds of butter if converted into that material.

Since the allies need butter-fat, why not give them 9½ million pounds of butter, which we can easily do without? It isn't much of a sacrifice for any of us to do without cream in our coffee, or an occasional ice-cream soda, and we will be glad to make it. Of course, it will dislocate trade to some extent, but war has dislocated most businesses, and this is one that the nation can easily make recompense for in deserving cases.

We venture to say that every producer and consumer would gladly fall in line to contribute their quota of the 9½ million pounds of butter, or make the necessary sacrifice to enable it to be made. In no other way can 9½ million pounds of animal fat be so simply and easily diverted to the Allies without interfering with our own food supply.—*Toronto Health Bulletin.*

CROWDED STREET CARS MENACE PUBLIC HEALTH

Crowded street cars, undoubtedly, are favourable to the transmission of diseases, notably tuberculosis. A tuberculosis patient, coughing without taking the precaution to cover his mouth, will fill the air with germs that will endanger everyone who may be near, especially those who may be predisposed to tuberculosis.

To offset this menace in New York, the Board of Health of that city recently issued orders to the street railway companies to the effect that no car should take in more passengers than its seating capacity, plus one-half. Conductors were instructed, therefore, not to start their cars until all the passengers, above the allowed number, had stepped off. It is claimed that this plan has proved effective and that the public quickly accepted the change.

Of course, such action presupposes that the railway companies provide sufficient cars, not only for ordinary business, but also for traffic during rush hours. It is probable that much of the trouble would be obviated and public health greatly benefited if an adequate number of cars were kept on the lines at all times.—*Adapted from Montreal Health Bulletin.*

Fires occur in Canada in the ratio of one to every 600 people, and in Europe in the ratio of one to every 3,000 people.

Limited Way of Using Electric Heat

The use of electricity for heating our homes has been the subject of much controversy during the past few years. The difference of opinion was principally due to a general way in which the subject was treated and the lack of detail in the various over-optimistic arguments advanced. The recent coal situation has brought about a more serious study of facts, and the figures now available show that, even if all of our numerous water-powers in Canada were converted into hydro-electric energy, the quantity would still be short of that required to heat our homes during the winter.

To say that hydro-electric energy cannot replace coal entirely for heating purposes does not mean that it cannot be utilized, but that it must be confined to raising the temperature of a cold room a few degrees in the late spring or early autumn. It may, indeed, stimulate the use of more available fuels, such as wood or peat. The principal objection to the use of many fuels for domestic heating is, that a fire cannot be banked up to last over night, from 11 p.m. to 7 a.m. Now, this is just the period when a large portion of the hydro-electric equipment installed in the country lying idle, and the surplus energy then available might well be used to supply heat in at least a few of our homes. This would not mean a direct conservation of energy but would render feasible the use of other fuels not requiring to be transported such long distances.

As an example, the hydro-electric energy used in the Montreal district is some 150,000 k.w. with a load factor of about 75 per cent. This 'load factor' means that 25 per cent of the total possible output during the 24 hours is unused, though it could be utilized at certain hours. In other words during the six coldest months approximately 121,000,000 k.w. could be used for heating purposes without the addition of a single horse-power in the present installations. This is equivalent to some 20,000 tons of coal.

One of the difficulties would be to prevent the energy being used for heating purposes except during the hours when very little energy is required for power and light. This could probably be accomplished by installing at the various heating services a disconnecting relay operated from the central station.

—*L. G.*

Retired farmers are numerous in Canada. They can perform national service by selling their experience and assistance to farmers in order to relieve the labour shortage.

Grow your own supply of vegetable seeds for next year. The Dominion Department of Agriculture has issued a leaflet to tell you how.