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WAR GRATUITY AS PAYMENT FOR SOLDIERS' LAND

Arrangement made with Department of Militia and Defence by Soldier Settlement Board

10 P.C. OF PURCHASE

An arrangement has been made with the Department of Militia and Defence whereby the Soldier Settlement Board may in specially approved cases accept war service gratuity on account of initial payment of 10 per cent on the purchase of land by soldier settlers.

The settler will be required to execute a power of attorney appointing the district superintendent of the Board his attorney for the purpose of receiving and cashing his cheques from month to month and applying the proceeds as stated. When the settler has a dependent who is receiving a separate cheque from the Department of Militia and Defence and whose portion is also assigned, the power of attorney should be jointly signed by settler and his dependent. They will also be required to sign a letter to the Department of Militia and Defence requesting that cheques in their favour be forwarded to the district superintendent. When the district paymaster acknowledges receipt the superintendent of the Board is empowered to proceed with the transaction.

This action on the part of the Board is at the request of a number of intending settlers who may have sufficient cash available for the initial payment, but desire to hold it as a grub stake.

IMMIGRATION SHOWS INCREASE OVER 1918

A statement of the immigration to the Dominion during April, 1919, compared with that of April, 1918, issued by the Department of Immigration and Colonization, is as follows:—

During April, 1919, the total immigration was 11,268, made up of 3,244 British, 7,524 from the United States, and 500 from other countries. During April, 1918, the total number of immigrants was 7,123, including 430 British, 6,310 from the United States, and 383 from other countries.

GREAT BRITAIN MARKET FOR FARM PRODUCTS

Russia, Belgium and Rumania have all been Crippled as Producers of Foodstuffs for British Consumer. Experts see Opportunity for Canada

It would seem that we have within the Dominion a very inadequate conception of the enormous trade, especially for farm products, open to us in Great Britain, says a report given out by the Canadian Trade Mission. The huge increase in the shipment of Canadian foodstuffs made as a war measure appears to have confirmed the British people in their belief that the Empire may be made self-contained in peacetime. Mr. Lloyd Harris, head of the Canadian Mission in London, at present in Canada, and Mr. Henry B. Thomson, of the Canadian Trade Commission, Ottawa, now temporarily in London, have endeavoured to impress this on the Canadian people. The outgoing of Russia as a producing country and the crippling of so many other countries from Belgium to Rumania, the strain on France and Italy, and the complete "bowling over" of Germany and Austria so far as importations into Great Britain are concerned, have left a wide space in the British import market, which Canada is now, with as much cordiality as urgency, invited to fill.

ROOM FOR CANADIAN PRODUCTS.

The almost incredibly large openings for Canadian farm products in Great Britain, in the opinion of Mr. Henry B. Thomson, surpass even the greatest expectations of Canadians, and Mr. Thomson, it will be recalled, speaks with the authority in this and allied matters of his former chairmanship of the Canada Food Board. He has pointed out that the import of eggs into Great Britain is potentially Canada's

[Continued on page 6.]

SEVENTY-FIVE PER CENT EMPIRE MANUFACTURE

Cable Explains Class of Goods coming under British Preference

A cablegram from the Secretary of State for the Colonies to the Governor General of Canada, dated June 4, says, referring to the cablegram of March 12 announcing the removal of all restrictions on the importation into the United Kingdom of goods, the manufacture of British dominions, except in the case of gold and spirits other than brandy and rum and hops, the Board of Trade has decided to accept as produce or manufacture of the British dominions goods which owe at least 75 per cent of their total value to dominion or colonial labour and materials. It is not contemplated, however, that so high a percentage should be applied for the purpose of preference. This means that in order that Canadian manufacturers may enjoy the privilege of exporting goods to the United Kingdom, free from the restrictions imposed on the manufacturers of foreign countries, they must make a declaration in each case that 75 per cent of the total value is due to labour and materials of Canada, or some other part of the British Empire.

Field Crops of Canada.

The area of Canada under field crops has grown from 3,268 acres per 1,000 of the population in 1890 to 5,095 per 1,000 in 1917, as shown by Dominion census statistics.

AMERICAN GRAIN CARGOES BY MONTREAL

Shipment Permitted under License by Canadian Govt. until September

The following statement has been authorized by the Hon. A. K. Maclean, Acting Minister of Trade and Commerce:—

"The Acting Minister of Trade and Commerce announces that American wheat when arriving above Montreal in transit for export shipment will be permitted by license from the Department of Trade and Commerce until further ordered. It is expected that this privilege will terminate about September 1, or at least early enough to ensure the entire elevator capacity on the Great Lakes for Canadian grain when it commences to move forward and as well our railway facilities for handling Canadian grain. In a few days regulations will be formulated in respect to such shipments to ensure that shippers must provide tonnage to carry such grain from Canadian seaboard in order to prevent congestion in Canadian elevators. In the meantime, on application from shippers, licenses will be granted by the Department of Trade and Commerce.

"A. K. Maclean."

Early Immigration Low.

During the five years after Confederation immigration to Canada was only about 18,500 a year, according to official data by the Bureau of Statistics.

PERCENTAGE OF UNEMPLOYED WAS LESS IN MAY

Slight Reduction noted as Compared with April Although there was Increased Number of Returned Soldiers

WEEKLY BUDGET HIGHER

At the beginning of May the percentage of unemployment among members of trade unions in Canada was 4·38, as compared with 5·62 at the beginning of April. During May there was a slight reduction in the amount of unemployment notwithstanding the increased number of returned soldiers, says a statement compiled for the Department of Labour. The depression in the coal mining industry continued. In civic employment there was a decrease of 9 per cent in comparison with April, 1919, but a considerable increase in comparison with May, 1918.

The time loss on account of industrial disputes during May was very much greater than during either April, 1919, or May, 1918. There were in existence during the month 84 strikes, involving 77,688 workpeople and resulting in a time loss of 893,816 working days. Sixty-nine strikes were reported as having commenced during May. At the end of the month 49 strikes, involving about 63,972 workpeople, remained unterminated.

The average cost of the weekly family budget of staple goods was slightly higher, being $13.53 at the Middle of May, as compared with $13.35 in April, $13.05 in March, $12.66 in May, 1918, and $7.42 in May, 1914. The index number of wholesale prices rose to 284·1 in May, as compared with 279·6 in April, 290·9 in November, 1918, 275·8 in May, 1918, and 136·3 in May, 1114.

INDUSTRIAL DISPUTES ACT.

During the month of May the Department received reports from three Boards of Conciliation and Investigation established to deal with disputes

Blast Furnace Capacity.

The total daily capacity of the nineteen iron blast furnaces in Canada in 1917 was about 4,835 tons,. as stated in the Canada Year Book for 1918.

REPORT WEIGHS POSSIBILITIES OF OIL FIELD

Considerations Favourable and Otherwise to Presence of Commercial Oil Field in lower Fraser River Valley Discussed in Report

DRILLING OPERATIONS

In Part B, Summary Report, issued by the Geological Survey, Department of Mines, there appears a brief report by Mr. Charles Camsell, of the Geological Survey, on the subject of "Boring Operations for Oil in the Vicinity of Vancouver, B.C.," which is the result of a survey of the ground made some time ago by the writer. In its introduction the report says:—

"Much local interest has recently been taken in the possible occurrence of oil in the neighbourhood of Vancouver, and three holes are being drilled to test the ground. The possibility of oil in the sedimentary rocks underlying the Lower Fraser River district has excited the interest of local mining men for several years past, owing to the presence of seepages of both oil and gas at a number of points.

"Such seepages of oil or gas are said to occur at Point Grey, West Vancouver, Pitt lake, and other points farther inland, but the origin of these seepages and whether or not they are connected with pools of commercial importance has not as yet been demonstrated."

GEOLOGICAL OUTLINE.

The geology of the district is thus outlined by Mr. Camsell:—

"The Lower Fraser River district, from Agassiz to the coast, is in the main low and fairly level. . . . The whole of the low-lying country on both sides of the Fraser river is presumed to be underlain by sedimentary rocks of Eocene age, though at Sumas mountain Cretaceous rocks project through them.

"These Eocene rocks, which are made up of conglomerates, sandstones, and some shale, are the possible oil-bearing strata and the rocks from which the seepages of oil are believed to have arisen. They contain a variety of plant remains and a few small coal seams, and are in certain places intruded by dykes of porphyrite or andesite.

"The topographic features of the country about Vancouver and south of the Fraser river are such as to suggest to the layman that the underlying solid have been folded into a series of anticlines and synclines, creating structural conditions favourable to the accumulation of oil. There is, however, little evidence to indicate that the ridges and hills of this district are expressive of the attitude of the underlying bedrock, for they are frequently either accumulations of Glacial or Recent material deposited in the form of hills, or else they represent remnants of a higher land surface that has been completely eroded away. There is, therefore, very little structural evidence, in the district itself, on which to base conclusions as to the presence or absence of commercial bodies of oil in these rocks.

"As far as the lithology of the beds is concerned, there are great thicknesses of porous standstones capable of acting as reservoirs for oil, but so far as is yet known, there are relatively few beds sufficiently thick or impervious to constitute a cover capable of preventing the escape of oil to the surface.

"A thin bed of sandy shale outcrops on the south side of Burrard Inlet, east of Hastings, and other thin beds have been encountered in the boring near Burnaby lake.

CONDITIONS FAVOURABLE AND OTHERWISE.

"Admitting that two conditions necessary to a commercial oil field have been fulfilled in this district, namely, lithological composition of the beds and a favourable structure which would allow oil or gas to flow and accumulate in pools, there remains the question of the original source of the oil.

"In order that oil or gas may occur in any rocks it is considered necessary that organic material must have been present at the time the rocks were being laid down and that favourable conditions for the embedding of such organic material should have existed. It is generally considered, also, that marine animal life was necessary for the formation of deposits of oil.

"The Eocene beds of the Lower Fraser River district are mainly sandstones and conglomerates laid down along the shores of an estuary into which streams were discharging their loads of sediment. The beds accumulated so rapidly that under ordinary conditions the proportion of sediment to animal material would have been large and marine animal life itself was not particularly abundant.

NO COMMERCIAL DEPOSITS.

A certain quantity of vegetable material was present, however, as shown by the occurrence of fossil plants and small coal seams, but the information obtained from natural exposures and drill cores does not as yet indicate that the Eocene beds contain sufficient organic material to have produced commercial deposits of oil.

This is the conclusion arrived at by the geologists of the state of Washington, where the Eocene beds are better exposed and where they have been more carefully studied than in the province of British Columbia.

The possibility of older petroleum-bearing rocks underlying the Eocene and furnishing a supply of oil to the Eocene must, however, be considered.

At Sumas mountain the Eocene rests on volcanic rocks and on the north side of Fraser river on granitic rocks, neither of which is a possible source of oil. Triassic and older rocks form the mountains east of Chilliwack and may extend under some of the region covered by the Eocene rocks, though no evidence of such extension is available.

It is necessary to mention another possible source of the oil of the seepages, which has been referred to by J. B. Tyrrell. Tyrrell atributes the origin of the oil to distillation from coal seams that have been intruded by dykes of igneous rocks. If this theory of origin is correct the seepages have no particular significance and a commercial oil field is not to be expected.

The evidence bearing on the original source of the oil seepages and whether or not they denote commercial bodies of oil underground is so scanty that definite opinions cannot be expressed regarding the occurrence of an oil field in this district. In locating the sites of drill holes, however, operators should not neglect to use all the geological data available and especially those bearing on the structure of the rocks, for by these methods much territory can be eliminated as not likely to contain oil deposits and operations may be confined to those areas that are favourable. It is regrettable that these methods have not been used in every case in selecting the sites for the drilling operations that are now in progress, for they are the only methods that have been proved by experience to be effective in the location of commercial fields.

DRILLING OPERATIONS.

"The first deep drilling operations in the Lower Fraser district were conducted about thirty years ago by the Canadian Pacific Railway Company with the hope of finding workable seams of coal. Holes were drilled at the time in Kitsilano and at Port Haney, but no logs of these holes are now available. Gas is reported to have been struck in the Port Haney hole at a depth of 600 feet, and as a result of this a Vancouver group of men began drilling in 1914 near the site of the old Canadian Pacific Railway well, with the hope of obtaining gas or oil in commercial quantities. The drill attained a depth of 1,250 feet, and the hole was then abandoned. J. D. Galloway reports that the drill was in sandstone and shales the whole way.

"The Pitt Meadows well, which was begun in December, 1913, by the Pitt Meadows Oil Well, Limited, is situated in section 13, township 40, range 5, west 7th meridian. Broad, flat meadows, almost completely flooded at high-tide, extend from Fraser river up the valley of Pitt river to Pitt lake, the upper part of the valley lying between the granite hills of the Coast mountains, and having islands of these rocks rising up through it. The site of the well in these meadows is just inside the outer line of the mountains. The first hole put down at this point reached a depth of about 1,200 feet, and owing to some difficulties was then abandoned. The present hole was started in December, 1913, and on January 1, 1919, was down 1,990 feet, over 1,000 feet being in drift before the solid bedrock was reached. A small showing of oil is said to have been obtained at 1,964 feet, from a thin bed of sandstone. Owing to the loss of some tools in the hole only about 100 feet in depth have been made in the last three years. The site of the hole was located by a magnetically controlled instrument which is supposed to indicate the presence of oil beneath the surface.

"A company known as the Empire Oil and Natural Gas Company is sinking a well in section 27, township 10, range 4, W. 7th meridian, about a mile south of Otter station on the Great Northern railway. Drilling with a Keystone drill has been in progress since April, 1918. The first hole at this site was put down to a depth of 350 feet and then abandoned without reaching bedrock. A second hole put down beside the first reached a depth of 140 feet, and was also abandoned. A third hole at the same site had reached a depth of 65 feet on January 6, 1919. All the holes passed through a top stratum of coarse gravel and were continued in soft sands. None of the holes reached solid rock.

"A diamond drill hole is being put down by the Spartan Oil Company in the municipality of Burnaby, about a mile north of the west end of Burnaby lake, on lot 130. One of the most important seepages of oil occurs at this point alongside the tracks of the Great Northern railway. Drilling was begun on August 15, 1918, and was still in progress on January 15, 1919, when a depth of 1,060 feet had been attained. The surface drift at this point was found to be 110 feet in depth, and the strata encountered were sandstones, conglomerates, and some shale. Small showings of gas and oil have been obtained from sand streaks in the conglomerate at several points below 640 feet. A contract has been let to sink the hole to a depth of 2,000 feet."

MONTH'S COAL OUTPUT

The Dominion Bureau of Statistics issues the following monthly bulletin as a survey of the output of coal in Canada for April, 1919, as compared with April, 1918. The figures represent net tons:—

Districts.	Output for month of April, 1918.	Output for month of April, 1919.
Sydney	347,486	344,916
Inverness	23,906	12,661
Port Hood	108	585
Pictou	46,402	60,817
Springhill	48,004	41,516
Joggins	20,286	15,912
Total for Nova Scotia	486,192	476,407
Minto	22,892	10,998
Total for New Brunswick	22,892	10,998
Saskatchewan	15,639	14,962
Total for Saskatchewan	15,639	14,962
Alberta bituminous	268,047	237,305
Alberta anthracite	14,199	10,354
LIGNITES.		
Pincher Creek	96	67
Lethbridge	59,484	46,409
Magrath	7	36
Milk River	245	104
Taber	1,832	1,257
Bow Island	173	247
Medicine Hat	156	351
Aldersyde	284	149
High River	24	13
Drumheller	13,106	16,860
Big Valley	772	1,214
Brooks	194	152
Hanna	528	943
Lacombe	254	249
Trochu	123	624
Three Hills	464	283
Carbon	113	88
Battle River	17	0
Camrose	1,777	2,204
Tofield	2,448	580
Clover Bar	4,775	10,760
Edmonton	4,787	2,725
Namao	844	382
Cardiff	4,470	6,476
Wabamun	653	32
Pombina	2,373	7,742
Total for Alberta lignite	99,999	99,947
Grand total for Alberta	382,245	347,606
Crow's Nest	70,159	52,528
Inland	12,920	4,639
Island	166,505	111,378
Total for British Columbia	249,584	218,545
Grand total for Canada	1,156,552	1,068,518

BUMPER FRUIT CROP INDICATED BY EARLY REPORTS OF GROWERS

Fruit Commissioner issues Report on Prospects from Fruit Districts Estimating Probable Yield

LOOKS LIKE HEAVY CROP

According to the fruit and vegetable crop report for June, issued by the Fruit Commissioner's Branch, Department of Agriculture, the prospects for this season's fruit crops are as follows:—

In submitting the following summary of apple conditions throughout the Dominion, we wish to emphasize the fact that all our information is based upon the blossom and that many factors may intervene between now and harvest time to upset these calculations. They must, however, serve as the only basis upon which the probable yield can be estimated.

NOVA SCOTIA.

The weather in the Annapolis Valley has been cool and damp and has delayed blossoming. Our latest reports, dated May 28, are to the effect that the blossom is now coming out slowly and is very heavy. One wire says "the heaviest show since 1911 and all varieties equally good." This coincides with a great many other reports received by mail during the present week. Farmers are spraying more than ever and apparently taking a keener interest in their orchards than at any time since the embargo prevented exporting to Great Britain. With favourable weather during the next few weeks it looks like a very heavy crop.

ONTARIO.

Wet weather has prevailed throughout the province and the trees are only now coming into bloom. The following is a summary of reports received during the past few days: Trenton—Large crop expected except Spy, Ben Davis, and Baldwin, the latter having suffered greatly from winter injury in 1917-18. Starks are a full crop, as well as most of the early and fall varieties. Brighton—All varieties except Duchess and Wealthy promise a full crop. Baldwin and Ontario are nearly all winter killed. Twenty per cent of all trees in this district were killed during the winter of 1917-18. Oshawa—Fifty per cent increase over 1918. Winter injury very severe and a number of orchards have been ruined. Cobourg—Trees have wintered well and with favourable weather during blossom the crop should be excellent. Prince Edward County—There is a bumper crop in prospect judging from the number of blossom buds, but allowance should be made for winter injury in 1917-18.

In Western Ontario prospects are hardly as favourable. Lambton County has a light bloom on many of the later varieties, particularly Baldwin and Russet. Greening and McIntosh are full and most of the early varieties. In well cared for orchards the following is an estimate of this year's crop as compared with an average yield: Middlesex County—Spy, Baldwin, and Greening 50 per cent; Ben Davis, Duchess, and King, 100 per cent. Oxford County—winter varieties 80 per cent, fall varieties 30 per cent. Elgin County—winter varieties 40 per cent, fall varieties 30 per cent. Norfolk County—winter varieties 70 per cent, fall varieties 60 per cent. If neglected orchards were included in the foregoing estimate the total crop would not exceed 30 per cent of normal. Halton County gives fair promise on nearly all varieties. In the Georgian Bay district a medium crop is expected, about equal to 1918.

BRITISH COLUMBIA.

Early reports indicate a 50 per cent increase over last year in the Okanagan Valley. There is a particularly heavy crop of Jonathan, McIntosh, and Wealthy, which were light in 1918. Yellow Newtown is not as promising as other varieties. The crop will undoubtedly exceed that of 1918, due to the maturing of young orchards, as well as to the excellent prospects now indicated. On Vancouver Island all varieties indicate a heavy crop except Jonathan and Newtown which are medium. Excellent reports for all varieties have been received from the Kootenay Valley. The Creston district has a medium to heavy bloom of early and winter varieties and a fair to medium bloom of fall varieties.

QUEBEC.

Fameuse, McIntosh, Alexander, and Russet are an average crop; Duchess, Wealthy, St. Lawrence, and Alexander, light to medium. About twenty-five per cent of all trees were killed during the winter of 1917-18, but in spite of this there is promise of a fair production this year.

Reports received from New Brunswick and Prince Edward Island are not general enough to warrant our making a safe estimate. The apple crop in these two provinces does not, in any event, greatly affect the commercial market.

TENDER FRUITS.

The Niagara Peninsula was a mass of bloom about the middle of May and from indications at that time there was excellent promise of a bumper crop of peaches, plums, and cherries. Reports received since then state that the set has been unusually good and that even with a heavy June drop there is a very large crop in prospect. Apparently no serious injury was caused by nine degrees of frost on April 25. Only on two occasions in the past sixty years, according to newspaper reports, has the temperature been as low at that late date. The situation was undoubtedly saved this year by cloudy weather and heavy winds at the time of the frost. At St. Catharines and at points on the Niagara River there are serious evidences of leaf curl. One correspondent claims that in his section Elbertas will be reduced 60 per cent and other varieties 30 per cent by this disease. Cherries and plums give very favourable promise. The weather was unfavourable during the bloom, but apparently the set has been heavy. Japanese plums are reported light at St. Catharines. Definite estimates on peaches, plums, and cherries will be made with more accuracy after the June drop.

In British Columbia cherries and pears promise a fairly heavy crop, slightly less than 1918. Plums and peaches show an increase of ten per cent, with prunes equal to last year and apricots 15 per cent better, in the Okanagan Valley. On Vancouver Island the plum blossoms were caught by frost and cold winds which may have reduced the crop in that district.

SMALL FRUITS.

In Eastern Canada the season has been very unfavourable for small fruits and with a reported decrease in acreage this would indicate a considerable reduction in the marketable supply. This is particularly so in the case of strawberries, and at points between Toronto and Niagara Falls. Black currants and gooseberries, however, give excellent promise in that section. East of Toronto an increased acreage is reported in Prince Edward County, but weather conditions have been very unfavourable, with several plantations completely under water.

The following table shows the acreage of strawberries on Vancouver Island and the Lower Mainland of British Columbia this year—together with an estimate of the probable yield:—

	Strawberries.	
	Acres.	Tons.
Vancouver Island	158	335
Lower Mainland—		
Burnaby	10	30
Hammond-Haney	75	240
Strawberry Hill	14	35
Hatzic-Mission	181	425
Chilliwack	45	110

OFFICIAL REPORTS ON CONDITION OF CROPS

The following telegrams on crop conditions have been received by the Dominion Bureau of Statistics from the superintendents of the Dominion Experimental Farms and from the Saskatchewan Department of Agriculture:—

Prince Edward Island.

Charlottetown.—May temperature normal; fine weather prevailed last week. Seeding general on the 18th. Seventy-five per cent grain and 25 per cent potatoes planted at close of month. Hay prospects good.

New Brunswick.

Fredericton.—May cold and generally dry, facilitating seeding. Grain all seeded and potatoes mostly planted in Upper St. John valley. More precipitation in eastern section of province, preventing seeding. Grass looks well, and fall rye at Experimental Farm is 3 feet high and heading. Fall wheat also looking well. Live stock all on pasture at end of month.

Quebec.

St. Anne de la Pocatière.—Spring backward eastern Quebec; May rather cool and wet; first tillage on 8th. Seeding hardly possible before 15th; became general 20th. Only 30 per cent grain and potatoes in ground to date. Meadows wintered well; clover very promising. Fruit trees wintered well; leaves opening.

Lennoxville.—An average acreage has been sown to grain this season, with smaller percentage of wheat than last two years, but an increase in other grains and forage crops. Seeding practically completed, with the exception of swedes and beans. Clover wintered very well, and promises good crops.

Cap Rouge.—Season late; seeding operations delayed. At beginning of June no corn or roots and not more than half of the grain is sown. Prospects good for hay, pasture, and fruit.

Manitoba.

Brandon.—May started cool, with some showers, but last half very hot and dry. Wheat seeding completed normal time. Coarse grains in by end of month. Crop got good start, was injured somewhat by heat, but would recover quickly if rain came. Some damage by cutworms and grasshoppers reported.

Morden.—Grain crops and grasses looking well, but other crops poor. Latter part of May exceptionally dry and temperatures ranging from 95 to 100. Soil moisture very good.

Saskatchewan.

Department of Agriculture, Regina.—Seeding practically completed. High winds have done very little damage. Hardly any reseeding necessary. Crops in excellent condition and making rapid growth. Sufficient moisture at present, although rain would be beneficial, especially in north and northwestern parts of province, where very little rain has fallen this year. All live stock reported in good condition; some cattle reported lost in bush fires in northern part of province.

Indian Head.—All crops growing and looking well. Hot weather and high winds damaged some districts. Rain needed. Some localities report damage from cutworms and grasshoppers. Crops further advanced than usual.

Scott.—Weather unsually warm for May. Winds have damaged crops in some sections. Sufficient warmth and moisture for unusually prompt germination and good crop growth. Early grain crops covering ground.

Alberta.

Lethbridge.—Rainfall for May one inch less than normal. Crop generally in need of moisture, but rain of 8 inches last few days of month improved conditions. Crop prospects in southern Alberta about 100 per cent, but copious June rains required on account of the scanty reserve of moisture in subsoil.

Lacombe.— Heavy snowfall early May delayed spring work ten days. Warm, windy weather followed. Cutworms did small amount of damage. Rain and snow last of May supplied needed moisture. Wheat and 60 per cent of oats up. Area unchanged. Crop prospects splendid.

British Columbia.

Agassiz.—May cool, damp, cloudy, resulting in very late spring; less than a third the sunshine for May of last year. Precipitation 4·71 inches, slightly more than average. Hay and pastures excellent and early. Other crops, especially cereals, corn, and roots, late.

CANADIAN CORPS POSTAL UNITS HANDLED GREAT QUANTITY OF MAIL

Over 85,000,000 Items of Mail passed through hands of Postal Corps overseas

HIGHLY EFFICIENT

A short summary of the mail handled by the Canadian Postal Corps, Overseas Military Forces of Canada, is given in the Report of the Overseas Minister of Militia, as follows:—

	Bags.
Letters and News Mail handled (all areas)	102,261
Parcel Mail	351,815
Letters, News, and Parcels despatched	659,412
Total number of Registered items handled	433,600

Bags average 56 pounds in weight, and represent the following:—

Letters	68,174,000
Newspapers	10,226,100
Parcels	5,332,670
Registered	433,600
Total items	85,166,370

The Canadian Postal Corps was organized for the purpose of dealing with all postal arrangements for the Canadian Overseas Military Forces, both in England and in France.

All mail for the Canadian troops in the field, whether from Canada or other sources, was first handled by the Canadian Postal Corps in London, and eventually placed in bags addressed to the various units. The Canadian Postal Corps in France thus carried on the work of distribution.

On December 31, 1918, the strength in England was officers, 7; other ranks, 174; and in France, officers, 7; other ranks, 148.

The Canadian Postal Corps handle the mail from the time of its receipt in England, until it is delivered to the regimental mail orderly of the unit in the line.

CANADA AND U. S. HAVE VAST COAL RESERVES

The final report of the Fuel Controller contains the following: "Should any one be alarmed about the coal supplies of Canada and the United States, it is only necessary to point out that an estimate made in 1910 gave the reserves of coal of all kinds in the United States, with its 100,000,000 people, as being 4,231,352,000,000 tons, while Canada, with its population of 8,000,000, has 1,360,535,000,000 tons. The output of the United States mines for 1918 was 585,560,522 tons, while that of Canada was approximately 15,000,000 tons. Great Britain, that hive of industry for generations, is credited with 208,922,000,000 tons reserves, small in comparison to Canada's supply."

SLIGHT INCREASE IN INDUSTRIAL FATALITIES IN CANADA LAST YEAR

Labour Department Records show Fatal Accidents that took place in Industries during 1918

TOTAL 1,222 DEATHS

According to the record of fatal industrial accidents occurring during 1918, compiled by the Department of Labour, 1,222 fatal accidents occurred during last year, as compared with 1,195 in 1917 and 950 in 1916. In 1918, as in 1917, the highest percentage of accidents were recorded in connection with the operation of steam railways, in the mining and lumbering industries, and in the metal and machinery trades. Of the 1,222 fatalities, as stated in the *Labour Gazette* for May, mining, smelting, and quarrying operations were responsible for 263 deaths, or 21·5 per cent of the total; the steam railway service accounted for 255 deaths, or 20·9 per cent; lumbering operations accounted for 155 deaths, or 12·7 per cent; while in the metals, machinery, and conveyances group there were 122 fatalities, this being 10 per cent of the total. These percentages vary but slightly from those recorded for the same groups in 1917, the percentage for 1918 being slightly higher in mining, and in steam railways slightly lower, than in the previous year.

The most accidents from any particular cause in any industry were 153 fatal accidents which happened through the victim being run over by or caught between steam railway cars. In mines, smelters, and quarries 104 fatalities were caused by explosions, 88 of these having taken place in the disaster at the Stellerton coal mines.

FATAL INDUSTRIAL ACCIDENTS DURING 1918 AS RECORDED BY THE DEPARTMENT OF LABOUR.

	Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.	Percentage of Total.
Agriculture	1	3	4	2	2	6	3	7	1	2	3	2	36	2·9
Fishing and Hunting	.	.	.	.	1	4	.	.	.	.	.	.	5	·4
Lumbering	16	11	8	17	23	10	20	13	5	14	1	17	155	12·7
Mines, Smelters and Quarries	99	18	15	14	14	11	12	14	28	9	12	17	263	21·5
Railway Canal and Harbour Construction	.	.	.	.	.	.	1	1	1	1	3	.	7	·6
Building and Construction	3	4	3	4	1	4	6	14	7	12	8	10	76	6·2
Metals, Machinery and Conveyances	9	2	10	7	11	18	14	11	11	8	7	14	122	10·0
Woodworking Trades	1	1	1	.	.	1	1	.	.	.	.	.	5	·4
Pulp and Paper Mills	2	2	5	2	5	3	1	1	.	2	.	2	25	2·0
Clothing	.	.	.	.	1	.	.	.	1	.	.	.	2	·2
Textile	.	1	.	.	2	1	.	.	.	.	.	.	4	·3
Food, Tobacco and Liquor	.	2	2	4	3	2	1	11	3	8	2	3	41	3·4
Chemicals and Explosives	4	4	3	5	5	4	5	3	5	3	6	5	52	4·3
Leather	1	.	2	.	.	.	.	.	.	.	.	.	3	·2
Steam Railway Service	37	21	17	19	12	19	15	16	19	24	25	31	255	20·9
Electric Railway Service	.	.	.	2	1	.	.	2	.	1	.	2	8	·6
Miscellaneous Transport	4	6	2	1	..	3	4	3	5	5	3	3	39	3·2
Navigation	.	.	1	1	.	3	.	1	.	.	1	.	7	·6
Public Utilities	.	2	2	4	3	2	1	2	6	3	2	2	29	2·4
Municipal Employment	1	1	.	.	5	2	3	.	1	.	.	.	13	1·1
Miscellaneous	5	9	6	3	1	3	5	12	5	7	13	6	75	6·1
	183	87	81	85	90	96	92	111	98	99	86	114	1222	100·0

"SUMMER CARE OF VEGETABLES" BULLETIN

Experimental Farms Note gives Advice to Farmer on Subject

The Experimental Farms Branch, Department of Agriculture, has issued the following bulletin on the "Summer Care of Vegetables": Root crops, such as beet, carrot, and parsnip, should be carefully weeded and thinned while the plants are still small. Parsnips should be thinned to about four inches apart; swede turnips six to eight inches. Carrots may be thinned to one inch apart and, when large enough to use, alternate roots pulled, leaving the remainder about two inches apart. Garden beets may be similarly handled, but the final distance in this case should be about four inches. As beet tops make a very delicious early green vegetable, thinning should be done so that these tops may grow to a useable size. The soil should be kept cultivated and never allowed to bake or harden. This is particularly true with peas and beans if a tender, succulent crop is desired. Beans, however, should not be cultivated when moist with either rain or dew, as the plants, if injured under these conditions, are particularly subject to bean rust (the spores of this disease developing in the injured tissues).

Corn that has been sown in hills should be thinned to three or four plants to a hill, if the hills are two to two and a half feet apart. Cabbage and cauliflower plants require eighteen to twenty inches of space to each plant in the row, and the rows should be two and a half feet apart. The soil should be kept well hoed to conserve the moisture and encourage rapid growth. Where space is limited, tomatoes may be grown in rows three feet apart and the plants eighteen inches apart in the rows and tied up to stakes. Corn, tomatoes, cucumbers, squash, pumpkins and melons all grow best on a light, warm soil. Five or six cumumber plants may be grown in a hill, the hills spaced about three feet apart; squash and pumpkin three or four plants in a hill and the hills six to eight feet apart. Where the soil is rich and warm and space limited, hills of cucumber, squash and pumpkin may be planted between alternate rows of corn.

Potatoes should be thoroughly cultivated to conserve all possible moisture; "ridging up" also supplies the tubers with loose soil in which to develop. However, in areas where there is a light summer rainfall, level cultivation will conserve the limited soil moisture more satisfactorily. Spraying should not be delayed until there are signs of injury from the well-known potato beetle, or from one or more of the many potato diseases. Paris green and arsenate of lead have been found very satisfactory poisons for the beetle, and can be applied at the rate of one ounce of Paris green to four gallons of water, adding an ounce of lime to neutralize any free arsenic present. Arsenate of lead adheres better to the foliage than Paris green, and may be applied at the rate of one ounce to a gallon of water if the paste form is used, or one ounce to two gallons if the powdered form is employed. Bordeaux mixture may be made up in small quantities in the following manner, employing wooden pails for mixing the spray: In each gallon of water dissolve two ounces of copper sulphate (bluestone), slake one pound and a half of quicklime (unslacked lima) in one gallon water, stir thoroughly, and then add one pint of the lime water for each gallon containing the two ounces of dissolved bluestone.

KINDS OF WOOD USED BY ONTARIO INDUSTRIES

A total of thirty-four different kinds of wood are reported as being used by the wood-using industries of Ontario, as stated in a bulletin issued by the Forestry Branch, Department of the Interior. Of the woods used, the greater part is grown in the province, particularly pine, spruce, maple, hemlock, and oak, which are used in greater quantity than any others. Elm, basswood, birch, beech, the group which comes next in quantity used, are also mostly purchased in Ontario. Ash, balsam fir, hickory, cypress, and gum, which stand next in quantity used, are mostly imported, with the exception of the first two named, while the next group, chestnut, poplar, ironwood, tulip, and Douglas fir, are nearly all home-grown except the last two. The other groups are walnut, Spanish cedar, butternut, apple and willow and sycamore, red cedar, ebony and sumac.

RESULTS IN STEER FEEDING EXPERIMENTS

Will Prove Profitable Side Line for Grain Farmers of Northwest

Steer-feeding experiments conducted on the Scott Experimental Station with a view to determining the possibilities of this side line on the grain farms of northwestern Canada indicate this to be a profitable line of work: (1) to increase the farm revenue; (2) to furnish winter employment for hired help; (3) to supply fertilizer for the land; and (4) to turn into profit products such as straw and screenings that are now wasted on many farms.

Since the equipment must be inexpensive, the buildings used in the experiments for housing the steers were a straw shed and a tight board corral roofed at one end, explained an Experimental Farms Note issued by the Department of Agriculture.

The grain feeds used were crushed oats and barley and wheat screenings. The roughage consisted of oat and wheat straw and prairie hay. A few oat sheaves were also fed when available.

The steers were purchased each year from a local dealer and put in the feed lot about December 1, and sold in the following May or June.

The ration at the commencement of the experiment consisted of about 2 pounds of grain per head per day, and this was increased until the animals were receiving 12 pounds each per day. Straw was fed during the early part of the winter, and later this was replaced by prairie hay.

The following experiments were conducted: First, a comparison of steers fed inside a straw shed with those fed in the open corral; second, a comparison of hornless steers with those dehorned just before putting in the feed lot; and, in addition, records were kept to show the profit of the venture. The conclusions reached indicate the advisability of giving steers on the open plains some protection, since the steers fed in the straw shed in the winter of 1916-17 made an average gain of 204 pounds each during the feeding period, while those feeding in the corral only made a gain of 159 pounds. The following winter the same difference in favour of the steers fed in the straw shed was noted.

The only apparent advantages the straw shed had were that the steers fed under cover and that the shed was less drafty than the roofed end of the corral. In the comparison of hornless steers with dehorned steers the former showed a gain of 119 pounds each in comparison with 64 pounds in the same period made by the dehorned steers.

In both year substantial profits were realized from steer feeding The average profit per steer over the cost of feed amounted to $22.68.

Notes made on the experiments show the importance of selecting for feeding good, beefy type, thick, mossy-coated steers.

That steers should be dehorned while they are calves.

That some shelter should be provided on the open plains to protect the steers from the winds.

That good straw makes good roughage during the early part of the feeding season.

That well-finished steers usually bring the most profit.

NOVA SCOTIA'S 1918 PRODUCTION OF APPLES

The final estimate of the production of apples in Nova Scotia last season is 825,000 barrels. This figure includes 300,000 barrels consumed within the province, of which 100,000 barrels were marketed. Of the remainder, 86,000 barrels were used by canning, cider and vinegar factories, 265,000 barrels exported to Great Britain, and 170,000 barrels shipped to points in Canada and Newfoundland, outside Nova Scotia, as stated in the June issue of the Fruit and Vegetable Report issued by the Fruit Commissioner's Branch, Department of Agriculture.

Fatal Accidents for First Quarter of Present Year.

The May issue of the *Labour Gazette* makes the following statement of fatal industrial accidents during the first quarter of 1919:—

"During the first quarter of 1919 the Department received reports of 212 fatal accidents (86 of which occurred in January, 72 in February, and 54 in March), as compared with 299 during the previous quarter. During the corresponding quarter of 1918 there were 350 fatal accidents reported (182 of which occurred in January, 87 in February, and 81 in March). The Department is unable to secure reports and information in regard to all fatal industrial accidents that may occur, but reports are received from all sources available."

FEEDING OF CANADIANS OVERSEAS SUPERVISED BY DIETETIC EXPERTS

Variety, Quantity and Food Value high at every Meal and Cooks were Thoroughly Trained

SCHOOLS OF COOKERY

The general idea that the cookery of an army in the field is done in a primative manner is disposed of by the section in the report of the Overseas Minister of Militia which gives an account of the feeding of the Canadian troops. An illustration is given of a camp kitchen fully equipped with large ranges and other apparatus provided in the kitchen of a modern hotel. In reference to this subject the report says:—

"The feeding of the Canadian troops on a scientific basis has received close and special attention, and every effort made to secure the best results both dietetically and economically. An inspector of catering, who is a dietetic expert, was employed to decide the caloric value of various foods and the proper manner in which they should be alternated. A school of cookery was established for the systematic training of men in the arts of cookery best suited to the men's needs both in England and France. In the preparation of diet sheets, too, technical knowledge has been used in the preparation of special dishes, the nutritive qualities of which a careful analysis has been made and scheduled. In other ways the range of diet provided for under ordinary military regulations has been very considerably extended. The diet of the Canadian troops, for instance, has been supplemented by frozen fish imported direct from Canada, and of this three meals were provided weekly. In fact, every possible endeavour has been made to ensure that a sufficient quantity, variety, and food value are to be found in every meal, and the system of inspection employed is a further guarantee that the system is satisfactorily carried out.

ECONOMIC ADVANTAGE.

"The economic advantage resulting from the employment of these scientific methods is also notable. The preparation of the diet sheets in advance furnishes a basis on which exact calculations can be made of all food required for immediate use, and in some cases for future use. In this way it is possible not only to forestall emergency prices being charged in the markets, but it has also been possible to establish a basis of claim for the refund of duty on dutiable supplies as they are called for from time to time. By reason of this attention to diet cost and the close scrutiny exercised over the value of the different foods used, the average daily cost of the ration issued to Canadian troops in England during the year 1917 was 14·142d., and during 1918, 14·9207d. These figures do not take into consideration the value of the duty refunded on dutiable commodities or the amount realized by the sale of products.

"Dripping is collected by the cooks, without depleting the rations of the soldiers. After all required dripping is used, it is shipped to the base. For dripping units were paid 0·35 francs per pound, and for the first eight months of 1918 the Canadian Corps turned in 421,043 pounds, amounting to 147,366.05 francs."

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Canada's Field Crops.

The total value of the field crops of Canada has grown from $384,513,795 in 1910 to $1,144,636,450 in 1917, according to Dominion census statistics.

COLLECTION OF ANNUAL AGRICULTURAL STATISTICS

Card System used by Dominion Bureau of Statistics forms almost Sure Basis for Estimating Totals

During the past two years the Dominion Bureau of Statistics at Ottawa, acting in concert with each of the nine Provincial Governments, has inaugurated and carried through successfully improved plans for the collection and publication of annual agricultural statistics for the Dominion of Canada. Probably no official statistics present more difficulty than do those of agriculture. Farming is essentially an individualistic industry, its operations are imperfectly understood by outsiders and the problem of securing trustworthy annual figures of total yield and value is often of baffling character.

From 1908 to 1917 the Census and Statistics Office, now the Dominion Bureau of Statistics, issued annual estimates of the area and yield of field crops and of the numbers of farm live stock, these estimates being compiled from the returns of crop correspondents in percentages of the previous year's data. The method proved faulty for other than tentative estimates, and it was especially unreliable as applied to the smaller field crops. The plan now in operation is based upon an annual ascertainment of the areas sown to the principal field crops as collected in June immediately after seeding. Later in the year, after harvest, and after threshing, estimates are obtained through crop correspondents of the average yields per acre, which multiplied by the areas, give the total yields. The total yields, when multiplied by average values per unit give the total values. In June every year the areas are collected by the distribution of cardboard schedules to as many individual farmers as it is possible to reach through the agency of the rural school teachers and children. The cards when completed are first sent to the Provincial Government, who after having them sorted into counties or districts, transmits them to the Dominion Bureau of Statistics at Ottawa for final compilation into totals by adding machinery.

BASIS FOR ESTIMATING.

The figures thus actually collected form a fairly sure basis for estimating the totals according to the ratio which subsists between the number of farms and the returns actually received. The final results are adjusted after consultation between the Dominion and provincial authorities, and identical figures are then released for simultaneous publication by the Dominion and Provincial Governments, the former publishing the figures for each province and for the whole of Canada, and the latter publishing the figures for their respective provinces. There is in the case of one or two provinces some variation of procedure. For instance, in Ontario the process is reversed, and the cards are issued and collected by the Dominion Government for compilation by the Provincial Government, the final estimates being calculated from the total acreage acording to plans long in use. In British Columbia the cards are addressed and mailed by the Dominion Government direct to the farmers, but the compilation is effected locally. Other variations apply to the printing and provision of supplies, these being undertaken in some cases by the Dominion, and in other cases by the province. But the essential feature is that division of labour is mutually agreed upon, and the results obtained are identical, so that the conflict of figures which used to characterize the government agricultural statistics of Canada is now happily a thing of the past. Similar procedure is applied to the numbers of farm live stock as classified by ages, and information as to the number of living animals on the farm in June is collected on the same cards as used for crops. The system was applied experimentally for the first time in June, 1917, in four provinces. Last year it was extended to all the nine provinces. The proportion of returns in the first year varied from 21 to 46 per cent; in the second year the lowest proportion was 20 per cent and the highest 54 per cent.

IMPORTANCE OF CARDS.

As the time is now at hand for the third year's application of the system in the four provinces (Quebec, Saskatchewan, Alberta, and British Columbia), and for the second year's application to the other provinces, it is desirable to call the serious attention of farmers in all parts of Canada to the duty imposed upon them of filling up the simple schedule required. On or about June 14 the farmers of Canada should have received through the rural school children a simple cardboard schedule to be filled up and returned to the school teacher of his school section. Any farmer who did not receive a card by the middle of June should obtain one either from the school teacher in his district, from the Agricultural Department of his province, or from the Dominion Bureau of Statistics at Ottawa.

It is the aim of the Dominion Bureau to secure ultimately an annual return from every individual farmer in the Dominion. The issue of trustworthy annual agricultural statistics is important for all classes of interests in Canada, but to none is it of greater importance than to farmers themselves who otherwise carry on their industry in the dark and are liable to be victimized by unscrupulous traders. It is impossible to prevent, were it desirable to do so, the issue of annual estimates of grain and meat production; and consequently it is to the interest of the rural community that statistics relating to their industry should be accurate and trustworthy and be put forth on independent and unbiased authority. It is confidently expected that as farmers become better acquainted with the system organized for their benefit and realize the practical value to themselves of accurate agricultural returns there will be a continuous increase in the proportion of returns. Meanwhile, it should be remembered that whatever degree of error may attach to the figures issued is attributable to the estimate that has to be made from the actual returns. In fact, any imperfection of the system is due to the extent to which farmers, whether from apathy, negligence, or mistaken prejudice make default. In proportion as the number of returns is increased and the necessity for estimation is in consequence reduced will the risk of error be eliminated and the greater accuracy of the totals be established.

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Foresters in Britain.

Over 12,000 of the Canadian Forestry Corps were working in the various camps in Britain, states the report of the Overseas Minister of Militia, and attached to them were 3,000 prisoners of war. The report also quotes the thanks tendered to the corps by the Royal Flying Corps for clearing aerodromes needed for night flying.

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Loans to Soldier Settlers.

Over $6,000,000 in loans to soldier settlers were approved by the Board during the month of May, making a total of over $12,000,000 loaned, says a statement issued by the Soldier Settlement Board. Figures for Alberta are $2,123,114; for Saskatchewan, $1,333,794; British Columbia, $1,120,177. The Manitoba office loaned $924,600; Ontario, $589,565; New Brunswick, $176,862; Nova Scotia, $134,358; Prince Edward Island, $116,253; Quebec, $122,000.

GATHER YPRES DEAD INTO CEMETERIES

Plans of War Graves Commission outlined at Recent Meeting

The following report of a recent meeting of the Imperial War Graves Commission, on which Sir George Perley is Canadian representative, has been received from the High Commissioner's office in London:—

Among other matters which were discussed the Commission had before them two important questions: first, the bringing into the cemeteries of bodies buried in isolated graves on the battlefields; and, secondly, the exhumation of bodies, whether in isolated graves or in cemeteries, in order to transfer them to their native countries. The Commission recognized the existence of a sentiment in favour of leaving the bodies of the dead where they fell, but in view of the actual conditions regarded it as impracticable. Over 150,000 such scattered graves are known in France and Belgium. In certain districts, notably those of Ypres and the Somme battlefields, they are thickly strewn over areas measuring several miles in length and breadth. These areas will shortly be restored to cultivation, or possibly afforested, and the bodies cannot remain undisturbed. They must therefore be removed to cemeteries where they can be reverently cared for. The Commission felt that any other course would be excessively painful to relatives and discreditable to the country, and would place the cultivators of the land throughout an enormous extent of territory in a most unfair position. They accordingly resolved to apply to the French Government for permission to gather these bodies into cemeteries as close as may be to the places where they lie. It was announced that the army was arranging for this work to be done by volunteers from among the comrades of the fallen, and that the reburials would be conducted by the chaplains with the forces, while the graves registration officers would ensure accuracy of identification.

REMOVAL OF BODIES.

With regard to the removal of bodies to their native countries, the Commission were aware of a strong desire in a small number of cases that such exhumation should be permitted; but the reasons to the contrary appear to them overwhelming. To allow removal by a few individuals (of necessity only those who could afford the cost) would be contrary to the principle of equality of treatment; to empty some 400,000 identified graves would be a colossal work, and would be opposed to the spirit in which the Empire had gratefully accepted the offers made by the Governments of France, Belgium, Italy, and Greece to provide land in perpetuity for our cemeteries, and to "adopt" our dead. The Commission felt that a higher ideal than that of private burial at home is embodied in these war cemeteries in foreign lands, where those who fought and fell together, officers and men, lie together in their last resting place, facing the line they gave their lives to maintain. They felt sure (and the evidence available to them confirmed the feeling) that the dead themselves, in whom the sense of comradeship was so strong, would have preferred to lie with their comrades. These British cemeteries in foreign lands would be the symbol for future generations of the common purpose, the common devotion, the common sacrifice of all ranks in an united Empire. This view has already been expressed in some of the overseas dominions, and the Commission were strongly of opinion that it would commend itself to the large majority of the British people as the higher and nobler course.

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Largest Wheat Yield.

The total yield of wheat in Canada increased from 112,434,000 bushels in 1908 to 231,730,000 bushels in 1917, as stated in the Dominion census report.

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EXTRACT FROM ORDER IN COUNCIL No. 2206.

"The Committee of the Privy Council further observes that as this war is being waged by the whole people of Canada, it is desirable that the whole people should be kept as fully informed as possible as to the acts of the Government which are concerned with the conduct of the war, as well as with the solution of our domestic problems; and for this purpose an Official Record should be instituted to be issued weekly for the purpose of conveying information as to all Government measures in connection with the war and as to the national war activities generally."

REVIVAL OF PLACER INDUSTRY EXPECTED IN CARIBOO DISTRICT

Old Field still rich and Activity is looked for in Historic Camps when Normal Conditions Return

PRODUCED $45,000,000

In Summary Report, 1918, Part B, issued by the Geological Survey, Department of Mines, a report by B. R. Mackay on the subject of the Cariboo gold district, British Columbia, forecasts a revival of production in this placer-mining field. The district, which has been noted for large production in the past, is still comparatively rich, according to the report, which says, in part:—

"The Cariboo gold fields embrace an area of 7,000 square miles, and lie within the great bend of the Fraser river, between the Canadian Pacific and Grand Trunk Pacific railways, the mining centre of the district being at Barkerville, 230 miles directly north of Ashcroft, on the Canadian Pacific railway. The area may be said to be bounded on the south by Horsefly river, on the east by the Cariboo range, on the north by the parallel of latitude passing through the head waters of Government creek, and on the west by Fraser river.

PRODUCTION IN THE PAST.

"Of the total placer gold production of British Columbia, amounting to a little over $75,000,000, almost $45,000,000 is officially reported as having been derived from the placer deposits of this field, and it is altogether probable that the output was much greater. Although the greater part of this yield was obtained between the years 1860 and 1878, when the rich accessible parts of the stream beds within the area were mined, the area still has, in spite of the great difficulties to be overcome, an average annual production of about $200,000. Owing to abnormal conditions brought about by the war, the scarcity of labour, the difficulty of raising capital, the high cost of mining machinery, and in some cases the impossibility of obtaining the required machinery, taken in conjunction with the fact that the price of the metal mined has remained stationary, it is natural that there should have been a great reduction in placer mining operations in this, as in other gold placer fields, and the output for 1918 was only $82,000. Had it not been that costly plants had been installed, which would have suffered greatly by lying idle, the decrease in output would have been much greater, as these plants continued work even though in most cases they did not make expenses. With the return of normal conditions and the completion into this area of the Pacific Great Eastern railway, now under construction, there should be a marked rejuvenation of the placer mining industry of this region."

The writer of the report describes a survey conducted by himself and another member of the Geological Survey during the season of 1918 for the purpose of continuing the investigation of the gold deposits of the Cariboo district commenced many years ago by Dawson and Bowman.

DISTRIBUTION OF DEPOSITS.

"Fine gold has been found," the report states, "along most of the creeks of the area, and is so widely scattered that the rich deposits of the Cariboo were discovered by tracing the trail of fine gold from the Lower Fraser up that river and its main tributary, the Quesnel, to the mining centre of the district. The coarse gold, however, has not travelled far from its parent source, and the majority of the rich workable deposits are confined to the beds of the creeks cutting the Cariboo schist formation. This formation, consisting of slates and schists of various kinds, referred by Bowman to lower Paleozoic age, is exposed in parallel undulations trending in a northwest-southeast direction. These schists are cut by numerous quartz veins, many of which are mineralized, and contain appreciable values in free and combined gold. These veins are doubtless the source from which the placers are derived, but whether they will pay to mine has not as yet been demonstrated. Development work along a number of the quartz ledges on Proserpine mountain, four miles from Barkerville, is at present being carried on with very encouraging results."

GREAT BRITAIN MARKET FOR FARM PRODUCTS

Russia, Belgium and Roumania have all been Crippled as Producers of Foodstuffs for British Consumer. Experts see Opportunity for Canada

[Continued from page 1.]

opportunity. During the war Canada's export of eggs to the United Kingdom was only 1¼ per cent of the requirements. In the same way the quantity of butter exported from Canada was only 1½ per cent of the British requirements, and in 1918 was only one-seventh of what it was in 1905. In bacon, Mr. Thomson emphasizes that Canada's war exports were only 8½ per cent of British requirements, though the Canadian trade supplied 67 per cent of the British requirements in cheese.

SELL TO DISTRIBUTOR.

Mr. Thomson has been struck with the necessity for correcting what he terms "the Canadian point of view towards British trade generally." The tendency runs too much to detail. "It is far better and cheaper," he says, "for the Canadian manufacturer to sell to a big distributor in Great Britain who covers the country by his own agents, and who has his own connections possibly down to the ultimate consumer, than for him to take a large number of small orders direct. The big distributors are responsible people, and will push the business. If Canadian manufacturers are not able to fill the large orders, why should they be so anxious to distribute the same bulk of stuff among the smaller people, as they face the same difficulties, while on the other hand large distributors are far more likely to make every effort to hold Canadian trade, and to push it for all they are worth?"

Far-away Iceland exported five times as much butter to Great Britain in the year before the war as Canada did. This is the surprising revelation made by Mr. Thomson, who emphasizes the Commission's stand that the Dominion must in the coming years do peacetime trade on a wartime scale, especially in agricultural produce. A return compiled of the imports of butter into the United Kingdom shows the total imports in 1917 to have been $94,475,000, of which approximately one-half came from within the Empire, particularly from Australia and New Zealand, and over $35,000,000 from Denmark.

THE FLAX MARKET.

Flax imports, dressed and undressed, into Great Britain in 1913 were valued at $20,900,000, which in 1917 had risen to $54,500,000. The only imports from within the British Empire came from New Zealand, $43,000. Despite the war, Russia sent into Great Britain $48,450,000 worth. Indeed, Russia that year grew 80 per cent of the world's flax.

The Commission has information from an authoritative source in France that the Ministry of Agriculture has permitted the importation of horses into France free. All animals are subject to sanitary inspection, and must be accompanied by a certificate of origin stating freedom from contagious illness.

Tender for Toronto.

Sealed tenders addressed to the undersigned, and endorsed "Tender for East Pier Superstructure at Eastern Entrance to Toronto Harbour, Ont.," will be received at this office until 12 o'clock noon, Wednesday, July 2, 1919, for the reconstruction of a portion of the superstructure of the east pier at the eastern entrance to Toronto Harbour, County of York, Ont.

Plans and forms of contract can be seen and specification and forms of tender obtained at this Department and at the office of the District Engineer, Equity Building, Toronto, Ont.

Tenders will not be considered unless made on printed forms supplied by the Department and in accordance with conditions contained therein.

Each tender must be accompanied by an accepted cheque on a chartered bank payable to the order of the Minister of Public Works, equal to 10 per cent of the amount of the tender. War Loan Bonds of the Dominion will also be accepted as security, or War Bonds and cheques if required to make up an odd amount.

NOTE.—Blue prints can be obtained at this Department by depositing an accepted bank cheque for the sum of $10, payable to the order of the Minister of Public Works, which will be returned if the intending bidder submit a regular bid.

By order.

R. C. DESROCHERS,
Secretary.

Department of Public Works,
Ottawa, June 6, 1919.

Increase of Acreage.

The total area of the Dominion under field crops has increased from 30,566,168 acres in 1910 to 42,602,288 acres in 1917, an increase of 12,046,120 acres, or 39 per cent, as stated in statistical data compiled by the Dominion Census Bureau.

DOMINION-PROVINCIAL EMPLOYMENT SERVICE NOW WELL ORGANIZED

Statement shows that there are now 78 Offices open in the Various Provinces and others will be opened

RESULT OF CO-ORDINATION

The Dominion-Provincial Employment Service has progressed until there are now seventy-eight Dominion-Provincial employment offices in operation under the Employment Offices Co-ordination Act. These are, as stated in the *Labour Gazette*, distributed throughout the various provinces as follows:—

Prince Edward Island.

Charlottetown.

Nova Scotia.

Amherst, Glace Bay, Halifax, New Glasgow, Sydney, Yarmouth.

New Brunswick.

Bathurst, Campbellton, Fredericton, Moncton, Newcastle, St. John.

Quebec.

Hull, Montreal, Quebec, Three Rivers, Sherbrooke.

Ontario.

Belleville, Brantford, Brockville, Chatham, Cobalt, Fort William, Galt, Guelph, Hamilton, Kingston, Kitchener, Lindsay, London, Niagara Falls, North Bay, Orillia, Oshawa, Ottawa, Owen Sound, Pembroke, Perth, Peterborough, Port Arthur, St. Catharines, St. Thomas, Sarnia, Sault Ste. Marie, Stratford, Sudbury, Timmins, Toronto (three offices), Welland, Windsor.

Manitoba.

Winnipeg (three offices), Brandon, Dauphin, Deloraine.

Saskatchewan.

Estevan, Moosejaw, Prince Albert, Regina, Saskatoon, Swift Current, Weyburn, Yorkton.

Alberta.

Calgary, Edmonton, Lethbridge, Medicine Hat, Red Deer.

British Columbia.

Nanaimo, New Westminster, Prince Rupert, Vancouver (two offices), Victoria.

At the conference between the Provincial Premiers and members of the Federal Government held in Ottawa in November last there was general agreement that during the period of reconstruction the subventions paid to the Provincial Governments for the purposes of the Employment Offices Co-ordination Act should be equal to half the amount expended for the maintenance of employment offices by the provinces, and that the total amount of the subventions should not be limited to the sum of $50,000 for the year 1918-19, or $100,000 for the year 1919-20, as specified in the Act. This view was accepted by the Federal Government and embodied in an Order in Council (P.C. 537) of March 12, 1919. For the year 1918-19 an additional vote of $30,000 was provided, making a total of $80,000 available for subventions, and for the year 1919-20 a special appropriation of $150,000 was made in addition to the amount of $100,000 stated in the Act, making a total of $250,000 for that year. These additional appropriations have made it possible for so complete a chain of offices to be established in so short a time.

Horse and Cattle Census.

The number of horses in Canada increased from 836,743 in 1871 to 2,598,958 in 1911, as shown by statistical data compiled by the Dominion Census Bureau. Cattle have increased in number from 2,624,290 in 1871 to 6,526,083 in 1911.

MANY ADVANTAGES IN FAVOUR OF CENTRAL CITY HEATING PLANT

Statement by Fuel Control Organization after Inquiry shows Economic Benefits of Central Heating Service

SAVES 60 PER CENT COST

A section of the final report of the Fuel Controller for Canada, just issued, is devoted to central heating plants, and is the result of an inquiry into this form of public utility made by officers of the Fuel Control organization. It is in part reproduced below, as follows:—

An inquiry has been made by the officers of the Fuel Control organization into the operation of central heating plants in various parts of the United States, with a view to ascertaining what progress has been made in this direction. There have been great advances made in general central station services on this continent. They have developed from water and gas supply to telephone, electric light and power services. In some cities central heating is already an accomplished fact, and it is a plan which has many attractions.

CONVENIENCE.

It is estimated that 400,000 people in Canada have to spend some time daily through the winter months shovelling anthracite into the family furnace. Under the central heating system this individual labour would be replaced by the mechanical handling of coal in large tonnages. The individual householder is put to the expense or trouble of firing of his own heating apparatus and of disposing of the ashes. This phase of the question is enormously significant and looms up very large in the estimation of the consumer. The community service is obviously more convenient, and this feature is important in itself.

EFFICIENCY.

Again, it is evident that in a central station well designed and properly operated there are great possibilities in the way of physical efficiency in the use of coal. Investigation to date would seem to indicate that the average efficiency of the Canadian house-heating equipment does not exceed 50 per cent. In other words, half of the heat value of the coal is lost "up the chimney" in converting it into applied heat. On the other hand, a modern heating plant, in charge of an experienced stoker, should reach an efficiency of 70 per cent. We have here, apparently, an advantage of 20 per cent in favour of the central system.

LINE LOSS.

Against this there must be placed the inevitable loss involved in the transmission of the heat to its ultimate destination, technically called the "line loss." The extent of this loss is difficult to estimate, owing to the different conditions prevailing in connection with central heating projects. One important factor is necessarily the distance of the average consumer from the central plant. Investigations by the United States Bureau of Mines indicate that the "line loss" is between 4 and 12 per cent of the heat generated.

Even with this deduction, there is still a clear advantage in favour of the central system.

The central plant ensures regularity and uniformity in temperature, as it would be fired day and night. It eliminates the individual cost of tending furnace, also the necessity of an individual furnace, and this would tend to reduce the cost of house construction.

The criticism may be made that while admitting that improved fuel efficiency can be attained by this method, the central plant generally would be run for profit and that the saving would be largely or wholly absorbed in paying overhead and profits to the central organization. There are, however, other considerations which must be taken into account.

SAVING IN COST OF FUEL.

Anthracite coal is almost invariably the domestic fuel in the towns and cities of a large portion of Canada. Because of its cleanliness and convenience of firing, anthracite readily commands a much higher price than bituminous coal. This increased price is quite out of proportion to the increased fuel value of the anthracite, which is inconsiderable and may be almost wholly ignored for practical purposes. The public pays the increased price for anthracite simply to escape the dirt and inconvenience incidental to using bituminous coal.

It is a peculiar fact, bearing on this phase of the question, that the greatest development of the central heating system in the United States is precisely in districts where coal is cheapest, such as in the states of Pennsylvania, Ohio, Indiana, and Illinois. One would have expected that the most promising field for central heating would be in the districts where coal was dearest and where the economy effected consequently would be largest.

Coming to a consideration of the relative cost of burning anthracite in the individual equipment and that of burning bituminous coal in the central heating plant, we find that the average cost of anthracite coal was $2.89 a ton higher than bituminous coal. This figure has been reached by analyzing the customs valuations at the mines of all classes of coal imported into Canada during a period of twenty years, with the following result:—

	Per ton.
Average cost of anthracite coal..	$4 77
Average cost of bituminous coal, including steam sizes	1 88
Saving by use of bituminous	$2 89

Cost of transportation to the ultimate destination must of course be added in both cases, and would be approximately the same for either class of coal.

Granting that the fuel value is practically equal, it will thus be seen that a saving in cost of fuel amounting to practically 60 per cent may be effected where conditions permit of introducing the central heating plan.

ECONOMY IN HANDLING.

Nor is this the whole story. A central heating plant would necessarily be located on a spur track connected with railway facilities and would purchase its coal in carload lots, unloading directly from the car into the boiler-house. Only a trifling expense would be involved in handling. The individual consumer, on the other hand, uses anthracite coal purchased by retail and delivered in his basement.

Careful investigation has been made by our statistical branch into coal handling all over Canada, and it was found that throughout 1918 the average cost of handling anthracite in provinces of Ontario and Quebec approximated $2.25 per net ton, to which add the excess of cost of anthracite f.o.b. station over bituminous, say, $2.75, making a total estimated saving of $5 per ton. From this would have to be subtracted the cost of handling bituminous coal into a central heating plant, say, $1 per ton. These figures are given more to draw attention to the possibilities of saving through central plants and the necessity of that system receiving serious consideration by our Canadian municipalities and Provincial Governments.

FAVOURABLE FIELD.

There would appear to be a particularly favourable field for central heating in the smaller communities in Western Canada, and also in the eastern part of the country where power is generated in steam plants. Most of the central heating systems in the United States are operated under such conditions, the exhaust steam being employed for heating purposes.

USE OF POWER PLANTS.

Where the heating load is large enough to entirely submerge the power load, there will be no peaks in the boiler room through variations in the latter. When the engines are exhausting their maximum into the heating system, the regulating valves will automatically cut the supply of live steam to the required amount; when the power load is a minimum, they will open and supply live steam to meet the requirements.

During the winter season the electrical energy generated is regarded as a by-product, and during the summer season all the fuel is chargeable against the electrical service. Compound condensing engines are used when no heating is required.

The same boiler capacity that will produce electrical energy for lighting three to four blocks in cities of medium size will supply exhaust steam in sufficient quantity to heat at least one block. This enables the system to take on a suitable heating load within easy distance of the generating plant without increasing the boiler capacity. This is, of course, the most economical arrangement from the point of view of operating cost. The steam, after it has passed the engines, will do nearly as much heating as it would before, and the power generated may vary from zero to maximum with only a very small increase in fuel requirements.

According to a survey made by the Dominion Water Power Branch, there is generated in Canada in connection with central electric light and power plants operated by steam a total of 192,110 horse-power. Such being the case, it would appear that there should be a fairly favourable field for utilizing exhaust steam for central heating purposes. Municipalities and utility corporations might advantageously give attention to this matter in the general interest of fuel conservation.

UNITED STATES DEVELOPMENTS.

In the state of Illinois alone there are forty-five central heating plants operated by private enterprise, in addition to those owned by various municipalities. Rates in the cases of the former are under the absolute control of the State Public Utilities Commission. Large plants are in operation in the western cities of Spokane and Seattle.

In Canada a start has been made in the city of Brandon, Man., where a central heating plant is operated by a utilities company.

TENDERS ASKED FOR BY THE DOMINION GOVERNMENT

Firms desirous of tendering for any Government Supplies should apply to the War Purchasing Commission, Booth Building, Ottawa, giving particulars of the business in which they are engaged and a list of the articles they wish to supply.

Tenders are constantly being invited by the different departments of the Government, tender forms and specifications being distributed by mail to all individuals or firms concerned, known to the Commission.

The War Purchasing Commission keeps a register of the different firms and lines of business they are interested in, and it is, therefore, advisable that those wishing to have tender forms sent them should register their names, addresses, catalogues, etc., with the War Purchasing Commission, which co-operates with all other departments.

Tenders have been invited by the different departments of the Dominion Government between May 31 and June 6, as follows:—

DEPARTMENT OF SOLDIERS' CIVIL RE-ESTABLISHMENT—

Articles.	Point of delivery.	Date due.
Drills	Montreal	June 7
Planes	London	" 7
Wool, knitting	Montreal	" 7
Hardware, etc.	Ste. Anne de Bellevue	" 7
Mercerized repp	Toronto	" 6
Stretchers, ambulance	Ottawa	" 9

DEPARTMENT OF JUSTICE (INTERNMENT OPERATIONS)—

Cheese	Amherst	June 6
Potatoes	"	" 9
Vegetables	"	" 9

DEPARTMENT OF JUSTICE (PENITENTIARIES BRANCH)—

I-beams, etc.	Kingston	June 11
Groceries	New Westminster	" 12

DEPARTMENT OF PUBLIC WORKS—

Refrigerating plant	Kingston	June 4

PUBLIC PRINTING AND STATIONERY (STATIONERY BRANCH)—

Manila tags, Nos. 5 and 6	Ottawa	June 9
Paper fasteners	"	" 9
Kraft envelopes, 5½ x 9¾, O.E.	"	" 12
Kraft envelopes, 6¾ x 13¾, O.S., printed	"	" 12
Scribblers, ruled	"	" 9

DEPARTMENT OF MILITIA AND DEFENCE—

Sterilizers	Victoria	June 10
Cotton waste	Halifax	" 7
Cotton waste	Ottawa	" 7
Paste, soldering	"	" 9
Rubber, cement, etc.	"	" 5
Holders, racks, rests, etc.	"	" 13
Sponges and chamois leather	"	" 9
Oil	Halifax	" 13
Radiator hose	Ottawa	" 12
Boxes, shipping fibre	"	" 5
Asbestos, millboard, etc.	"	" 9
Casket paper and packing	"	" 11
Sweeping chimneys	Kingston	" 9

B.C. Fruit Production.

The following table, showing the production of fruits in British Columbia during the years 1916, 1917, and 1918, is taken from the Fruit and Vegetable Crop Report, for June, issued by the Fruit Comissioner's Branch of the Department of Agriculture.

	1916. Cars.	1917. Cars.	1918. Cars.
Apples	2,312	2,693	2,295
Crab apples	184	265	112
Pears	78	74	149
Peaches	109	87	198
Plums and prunes	249	222	210
Apricots	23	39	52
Cherries	34	47	63
Strawberries	103	86	107
Raspberries	53	61	127
Blackberries	12	14	18

NEED OF IMPROVED FOREST CONSERVATION METHODS

RECOMMENDATIONS BY COMMITTEE ON FORESTS

Commission of Conservation urges Additional Laws to Protect Timber Resources from Fire and Otherwise to Conserve Great Natural Assets for Future

An urgent appeal for more progressive methods of conserving the forest resources of the Dominion and recommendations for improvements in forest legislation are contained in the 1919 report of the Committee on Forests, Commission of Conservation, a summary of which is reproduced below, as follows:—

1. It is most gratifying to be able to again report that, notwithstanding war conditions, the year shows notable progress toward better forest conservation. The extended report of the committee discusses these matters in considerable detail. This summary will accordingly refer only very briefly to the more important developments of the year, but will emphasize particularly the respects in which further improvements are most urgently demanded.

2. The Government of New Brunswick is to be congratulated upon its progressive and far-sighted forest legislation and upon the later developments, in organization, timber sales policy, forest survey, land classification, and forest research. No province of Canada has a more progressive forest policy than New Brunswick. All this, however, is made imperative by the rapid exhaustion of virgin timber supplies and the urgent necessity for producing new forest crops to support the economic structure of the province.

3. In Nova Scotia the Provincial Government is alive to the desirability of appointing a provincial forester, to have charge of forest fire protection, carry on an educational campaign along forestry lines, and to act as provincial fire inspector for the Dominion Railway Commission. The financial difficulties are obvious, since the Crown land revenue is exceedingly limited. It is suggested that the co-operation of the Agricultural College at Truro might be enlisted in consideration of forestry lectures before the agricultural students, thus helping to meet the salary of the provincial forester. Further, it is believed that a thorough reorganization of the fire-ranging system, under a provincial forester, would improve the efficiency of forest fire protection to a degree which would readily secure the support of a majority of the timber owners, for a slight increase in the fire tax. If this could be done the problem would be solved.

4. Forest protection in Quebec has made steady improvement under the four co-operative associations and, outside their territory, under the provincial forest service. Legislation is under consideration to enforce the adequate patrol of licensed timber berths within association boundaries, the holders of which are not association members. The enactment of such legislation is highly desirable.

ONTARIO AND BRITISH COLUMBIA.

5. Ontario has by far the largest fire-ranging organization in Canada, comprising well upward of 1,000 men during the height of the fire season. The extension of the merit system of appointment to this organization is highly desirable, following the precedent already set by British Columbia, New Brunswick, and the Dominion Forestry Branch. From the viewpoint of perpetuating the forests of the province through wise use, the one step now most imperatively required is the transfer to the Provincial Forestry Branch of supervision over cutting operations on all Crown lands. Technical forest organizations are now in full charge of cutting operations on Crown lands in British Columbia, Quebec and New Brunswick, and in the Dominion forest reserves, exclusive of licensed lands. Leaving technical work of this kind in non-technical hands means simply that the forests are administered for immediate revenue only, and the question of providing for the future does not, and in the very nature of the case cannot, receive anything like adequate attention, if any at all. It is unthinkable that Ontario should much longer lag behind other provinces in a matter which so vitally affects the future interests of the people as a whole.

6. Developments of the year in British Columbia include the organization of a forest rangers' course for returned soldiers, under a co-operative arrangement; the establishment of a timber-testing laboratory at Vancouver, also a cooperative scheme; the decision to inaugurate an air patrol of coast forests, and a considerable amount of slash disposal on logging operations. The Sitka spruce forests of the province supplied a great amount of airplane timber.

7. As to Dominion lands in the west, the outstanding development of the year has ben the adoption of the merit system of appointment, applicable to both the inside and outside services of the Dominion Forestry Branch. This abolition of the patronage system of appointment removes the greatest single obstacle to efficiency in the fire-ranging staff on Dominion Crown lands.

8. The Dominion Forestry Branch, a technical organization, still has no administrative control over cutting operations on licensed timber berths on Dominion Crown lands, although these berths comprise the great bulk of the merchantable timber in Dominion ownership. This backward situation is parallel to that which exists in Ontario, as contrasted with technical control of such cutting operations in British Columbia, Quebec, and New Brunswick, and also in forest reserves aside from licensed lands. This unprogressive administrative anomaly is a relic of former times, when the necessity for technical handling of technical subjects was less appreciated than now.

ALBERTA NEEDS LEGISLATION.

9. A revision of the Prairie Fires Ordinance of Alberta is imperative in the interest of forest protection. The adoption of the permit system of regulating settlers' clearing fires is an essential feature of such revision. Legislation is also required, to provide means for compelling provincially chartered railways in Alberta to provide for the prevention and control of railway fires, through requirements similar to those imposed by the Dominion Railway Commission upon lines under its jurisdiction.

10. Authorities believe that among the peace-time uses of aircraft will be aerial fire patrol and aerial photography; the latter is believed to have possibilities in connection with surveying, the mapping in of forest types, etc. It is reported that the Dominion Government has under consideration the establishment of a national air service, to investigate and facilitate peace-time uses of aircraft, along these and other lines which would constitute distinctively public services. It is recommended that the possibilities in these directions be thoroughly investigated by the Dominion Government.

11. The Government is definitely pledged to the placing, at the forthcoming session of Parliament, of the lines formerly known as the Canadian Government Railways, under the jurisdiction of the Railway Commission. In the interest of forest fire protection along these lines, such action is urgently needed.

12. The Canadian Forestry Association is to be congratulated upon its energetic campaign for better methods of forest conservation throughout the Dominion.

13. The Dominion Government should be urged to require wood fuel to be sold only by the standard cord of 128 cubic feet, or fraction thereof, rather than by the load. The latter practice militates strongly against the more general use of wood fuel, besides constituting an injustice to the consumer.

14. The appropriations of the past year, by the Dominion Government, and the Governments of Ontario and Quebec, for the location, investigation, and eradication of the white pine blister rust, should by all means be continued. The protection of our forest resources urgently demands the appointment of a forest pathologist, with adequate facilities, in the Department of Agriculture, to study the fungous and other diseases of forest trees, in co-operation with the Chief of the Division of Forest Insects of the Entomological Branch.

15. A good start toward forest planting has been made in the province of Quebec, by some of the pulp and paper concerns, notably the Laurentide and Riordon companies. The Governments of Quebec and Ontario have under consideration the adoption of a planting policy on denuded Crown lands. It is to be hoped that such a policy may be made effective. Quebec has also under consideration the basis under which limit holders might acquire limited areas of denuded Crown lands for reforestation purposes. This is a matter of great importance, which should receive attention in Ontario as well.

16. The problem of slash disposal on logging operations is receiving renewed attention, and it is anticipated that experiments as to its practicability and cost will be made, during the coming year, by a number of operators in eastern Canada. From the viewpoint of reducing the heavy losses due to forest insects and fungi, the argument for slash disposal is even stronger than from that of fire protection, although the latter consideration alone has, in many cases on this continent, been considered sufficient to justify compulsory slash disposal on public lands.

17. The report on the forest resources of British Columbia will be ready for distribution almost immediately. The similar report for Saskatchewan is rapidly nearing completion.

18. It is recommended that not less than $16,000 be set aside from the funds of the Commission, for the continuation and extension of field work in forestry during the coming year. This should include the beginning of an investigation of the forest resources of Ontario, in co-operation with the Provincial Government, and the extension of the valuable investigative work, under the immediate direction of Dr. C. D. Howe, of the reproduction and growth of pulpwood species in eastern Canada, in co-operation with representative pulp and paper companies, and in collaboration with the several provincial forest services. It is of interest to note that both the Canadian Pulp and Paper Association and the Canadian Lumbermen's Association have, by formal resolution, endorsed the forest research work of the Commission, as well as the investigation, by the Commission, of forest resources of the various provinces, and have urged that funds be made available for the adequate prosecution of these projects.

The report, in addition, contains an interesting section describing what has been done in the way of forest research:—

A greater amount of forest research has been done in Canada during the past year than ever before. In addition to the projects of the Commission of Conservation, the Dominion Forestry Branch has continued its forest survey on the Petawawa military reservation, Ontario, preliminary to studies of growth and reproduction. The Quebec forest service has also done work along these lines. The New Brunswick forest service has paid very considerable attention to growth and reproduction studies, partly in collaboration with this Commission, and it is expected that the scale of such work will be materially increased during the coming season.

Our own projects, in direct co-operation with the Laurentide and Riordon companies and with the Dominion Entomological Branch, have been con-

[Continued on page 9.]

RECOMMENDATIONS BY COMMITTEE ON FORESTS

Commission of Conservation urges Additional Laws to Protect Timber Resources from Fire and Otherwise to Conserve Great Natural Assets for Future

[Continued from page 8.]

tinued under the direction of Dr. C. D. Howe. This involves a careful study of the reproduction and growth of the eastern pulpwood species, after logging. The object of this study is wholly practical, since it has for its aim the determination of what modifications of existing methods of cutting are necessary to secure adequate reproduction and growth of the more valuable species.

The studies thus far made have shown that present methods of cutting in the mixed forests of Eastern Canada are destructive, rather than constructive, and that there is nothing like adequate provision for the future. The constant tendency is to increase the predominance of the less valuable hardwood species, through the cutting of the conifers only. These observations are borne out not only by Dr. Howe's studies, but also by a careful investigation made during the past summer by Prof. B. A. Chandler, of the Forestry Department of Cornell University, on lands in Ne-ha-sa-ne park, in the Adirondack mountains of New York, where conditions are to some extent similar to those obtaining in the St. Maurice valley of Quebec. The lands studied by Prof. Chandler were cut for spruce twenty years ago. The report shows clearly that because of the overpowering domination of the hardwoods over the free spruce, the prospects for future cuts of spruce seem to be very poor. In other words, it will not take very many cuts of spruce on the diameter limit basis to practically eliminate spruce as a commercial species from these areas of mixed forest.

TRANSPORTATION PROBLEM.

It would seem that the full solution of the problem can come only when it is commercially feasible to log the hardwoods as well as the conifers. High transportation costs, however, prevent the utilization of the great bulk of the relatively less valuable hardwoods. Limited markets for the lower grades are also a serious obstacle. It may be that the wider use of motor tractors for winter log-hauling may help toward the solution of the transportation problem, within certain limits of distance, where stream driving is not feasible; and that the use of groundwood pulp from hardwoods, in mixture with spruce and balsam pulp, in the manufacture of newsprint, may constitute one of the elements in the solution of the markets problem. Some experiments have already been made, and are under way along these lines. It is believed, further, that much more can be done in the direction of transporting hardwoods by stream driving than many people have heretofore believed.

In line with other recommendations for conditions more or less similar, Chandler suggests that, in addition to cutting as much of the hardwoods as the market conditions will permit, the removal include, to the lowest possible size, the diseased spruce, spruce which will not be freed by the cutting, and spruce whih have been so badly suppressed that they probably will not recover. As many small and medium, well-topped free spruce should be left as lumbering conditions and the danger from windfall will allow. In other words, as Prof. Chandler says, the timber should be marked by a man who knows all that is known about the silviculture of this type of forest, and, at the same time, knows the market with which he is contending.

It is of the greatest importance that the research projects upon which Dr. Howe has been engaged, in the forest, be continued and extended, with a view to learning actual conditions and finding out what can be done towards improving them, in connection with logging operations. The effect of forest fires upon natural reproduction, particularly that due to seed stored in the forest floor, will be carefully studied. The prospective value of our entire project of forest investigation has been definitely recognized by formal resolution of the Woodlands Section of the Canadian Pulp and Paper Association, as well as by the fact that two of the best known pulp and paper companies of Canada are contributing financially toward the support of the work on their limits. Should the requisite funds be available, it is hoped that similar investigations may be started elsewhere, as in Ontario, preferably including an area of primarily coniferous forest, as contrasted with the mixed stands in which we have been working. Such studies would constitute an admirable basis for comparison with the results of investigations in the St. Maurice valley.

DIAMETER LIMIT SYSTEM.

It should be borne in mind that the diameter limit system of regulating cutting operations, upon which the hopes for a future crop have so generally been builded, did not in Canada originate as a measure of scientific forestry, but was first inaugurated in order to ensure some timber being left on the land for the use of the settler who, it was expected, would follow the lumberman. This is parallel to the genesis of the licensing system of disposing of timber which had its beginning in the recognition of the fact that lumbering operations on a given area, at that time the fertile valleys, would be but temporary, and that the soil itself would be retained for the use of the settlers who would follow later.

Both the licensing and diameter limit systems have served a tremendously valuable purpose in Canada; the former because it has retained under public ownership and control so large a proportion of the non-agricultural lands of the country, and the latter because it has prevented the complete destruction of the forest, as a forest, over great areas, pending the arrival of methods of regulating cutting operations that should take more fully into account the widely varying conditions that always exist in the forest. It is now pretty generally conceded that improvements in the existing situation are urgently needed, and it is to help in finding the answer to this problem that the Commission has embarked upon its plan of forest research. Adequate financial support is, however, imperative if the work is to go forward on an adequate scale, together with investigations of the forest resources of the several provinces, such as have already been made in British Columbia and Saskatchewan.

It cannot be too often or too strongly emphasized that our forest resources are by no means inexhaustible, that the virgin forests of Eastern Canada are rapidly approaching exhaustion, that the continuance of our forest industries depends upon keeping the non-agricultural lands in a productive condition, that present methods of cutting do not adequately provide for the perpetuation of the forest as a forest, and that a great deal of further study and investigation will be necessary to determine just what steps must be taken to meet the situation.

Potato Acreage Less.

The acreage of potatoes in Nova Scotia and Ontario is likely to be less than last year, according to early reports, as stated in a report issued by the Department of Agriculture. In Ontario the prolonged wet weather has made it practically impossible to get on the land. Other reasons for the decreased acreage are the high cost of fertilizer and the shortage of labour.

Save by the W.S.S. plan.

FORESTS MUST PLAY BIG PART IN RECONSTRUCTION

"Statesmen and business men have repeatedly emphasized the part that the further development of our natural resources must play in reconstruction after the war. Any such programme must take full account of the forests. Such increased development will assist materially in providing against unemployment, through the building up of new forest industries, in addition to the 5,000 wood-using industries already in existence. It will be a large factor in stabilizing economic conditions generally.

"A large export trade is particularly essential to Canada, to redress her unfavourable trade balance, particularly with the United States. In this direction, our forests hold a position of peculiar strategic importance, both actual and potential. In British Columbia, for example, it has been shown that the annual lumber cut can be increased five-fold, under good management, without impairing the forest capital stock. This means an enormous export trade to which the shortage of shipping is still the greatest obstacle.

"The present and potential value of Canada's export lumber trade is indicated by the order recently placed by Great Britain for lumber from Canada, aggregating around $50,000,000 in value. In the East, the value of our pulpwood forests is indicated by the fact that the value of the exports of pulp and paper now total around $60,000,000 annually. One-fourth of the newsprint used in the United States comes from Canada, and fifteen per cent of the pulpwood consumed in that country is the product of Canadian forests."—Report of the Commission of Conservation Committee on Forests, 1919.

EXPERIMENTAL FARM'S ADVICE ON HAYING

Bulletin says that time of Cutting is of Prime Importance to Farmer

The cutting and curing of hay is an operation requiring the exercise of prompt action and sound judgment if a maximum yield of hay of suitable quality is to be saved.

An Experimental Farms note, issued by the Department of Agriculture, says:—Towards this end there are several factors which should receive consideration. The time or stage of cutting is of prime importance since it affects both yield and quality. Usually the most profitable yield is obtained when the crop is cut when in blossom or just past that stage, say when about one-third of the bloom has disappeared. Ordinarily the tendency is to leave the commencement of haying too late for proper curing during the latter part of the season, due to overripeness of the crop. It is advisable, therefore, to plan to do this work during the period when there is the least possibility of loss. Beginning haying early is good practice. Clover and alfalfa cut slightly immature will make better hay under favourable weather conditions than left until fairly ripe. Besides, an early start will allow for loss of time through broken weather during the haying season and will ensure a heavier second crop which may be utilized for hay, seed, and pasture purposes.

With regard to methods of curing, no definite rule or rules of procedure can be laid down to meet all requirements. A successful haymaker, so to speak, "Knows his business," a knowledge that is acquired only by long experience with vagaries of weather, periods of cutting, conditions of curing, etc. To become efficient in this work requires one vigilant and with ability to contend with emergencies.

Clovers and alfalfa are more difficult to cure than timothy and other grasses. They are more succulent, absorb rain more readily, and the leaves, the most valuable part of the plant, are more easily broken off than the leaf blades of grasses. They should be cut when free from dew or other moisture, and dried, for placing in cocks, by the agency of wind rather than sun as far as possible. Exposure to rain or even heavy dew will change the green leaves to dark brown and make them crisp and readily broken off by handling. Rain and dew will also extract the aroma of fragrance a quality essential in making hay palatable and attractive.

Mixed hay, timothy and other grasses cure more readily than clover and are not affected to such an extent by unfavourable weather conditions. Otherwise the general principles of curing laid down for clover and alfalfa apply. Timothy grown for market purposes may be cut at a later period than is recommended for ordinary farm feeding purposes. Market conditions demand well-matured, though not overripe hay.

Males' Large Majority.

The excess of males over females in the Dominion is 437,347, which is an excess percentage of 130 males per 1,000 females, the male population being 3,821,995 and the female 3,384,648. The number of females per 1,000 males is 886, the deficiency of females as compared with males being greater in Canada than probably in any other country. The disparity is especially strongly marked in the Western Provinces. The last census showed that the number of females per 1,000 males for each province was: British Columbia, 560; Manitoba, 622; Alberta, 673; Saskatchewan, 688; Ontario, 942; New Brunswick, 956; Nova Scotia, 961; Quebec, 980; and Prince Edward Island, 991.—*Canada Year Book.*

Wheat Area Increase.

The wheat acreage in the Dominion has expanded from 1,646,781 acres in 1870 to 2,366,554 acres in 1880, 2,701,246 acres in 1890, 4,224,542 acres in 1900, and 8,864,514 acres in 1910, to 14,756,000 acres in 1917, as shown by Dominion census statistics.

Apples for the U.K.

The Dominion Fruit Commissioner supplies the following table, which shows the quantity of Canadian apples imported into the United Kingdom between January 1 and March 31, 1919, and for the same period in 1918, together with a statement of the total imports of apples:—

	1918. Cwts.	1919. Cwts.
Total imported	193,719	1,472,167
Imported from Canada	307	362,882

GREAT WASTE OF COAL AS PRODUCT PRESENT UTILIZED IN CANADA

Expert Advocates Coke as Substituted for Anthracite which has to be Imported

IMMENSE SAVING RESULT

The following is taken from a review of the coal resources of Canada by F. E. Lucas, in the final report of the Fuel Controller:—

"In 1913 Canada produced 15,012,178 tons of coal. We imported 12,096,227 tons of bituminous, 4,208,862 tons of anthracite, and 710,109 tons of coke. In the same year we exported 1,562,020 tons of bituminous and 68,235 tons of coke. From that time forward Canada has lost ground or remained practically stationary, due to shortage of labour and transportation facilities by reason of war conditions, until the 1918 figures show a total coal production of 15,180,000 tons, with imports as follows:—

	Tons.
Bituminous coal	17,331,177
Anthracite coal	5,253,751
Coke	969,932
Coal exported in 1918	1,902,010
Coke exported in 1918	26,013

ENORMOUS WASTE OF COAL.

"The coal consumption of the country may be roughly divided as follows: For use in the manufacture of coke and gas, railway locomotives, industrial plants, and domestic use. In all these there are serious and at the same time preventable losses. There are many individual plants that could show fuel or power reports that would be startling when compared with general practice. At the foot of the list, so far as thermal efficiency is concerned, might be placed the domestic consumption, with not over 4 or 5 per cent of the thermal value of the coal recovered. Locomotives are little, if any, better from an economical standpoint. The general run of industrial plants will not exceed 7 to 8 per cent, and in the production of beehive coke there is an enormous waste of fuel and by-products. There are, however, many installations which are getting results much in advance of the averages here given, but in most of these cases there is still room for a 50 per cent saving.

"I contend that we are not getting anything like the amount of light, heat, and power we should, or could get, and I further contend that in getting this extra light, heat, and power we would not only be conserving the coal supply but getting cheaper power, and at the same time recovering other products which would be of great economic value to the country and lead to the extension of existing industries and the establishment of new ones.

SUBSTITUTE COKE FOR ANTHRACITE.

"Starting with the importation of anthracite, which is practically all used as domestic fuel. This can be almost entirely eliminated, and in so doing give as large returns on the invested capital as any industrial concern in the country.

"The substitution of coke as domestic fuel instead of anthracite is nothing new. It has not been tried out in this country except for the comparatively small stocks of gas coke which are sold by the various city gas plants. There are, however, plants in the United States that cater to a very large domestic and industrial trade in coke. One railroad has used about 700 tons of coke per day in their locomotives for years.

COKE MADE FROM LOW-GRADE COAL.

"A coke for domestic use can be made from coals which are not suitable for the production of metallurgical coke or for the highest and most economic production of gas in city gas plants. Different qualities of coke can be made in the same plant or a different type of plant can be constructed in which, by low-temperature distillation, an entirely different type of solid fuel can be made. While coke is more bulky than anthracite, yet tests have proven beyond doubt that pound for pound it is as good or very often better than anthracite as a fuel.

"In the production of this fuel many valuable by-products are obtained, such as gas, tar, ammonia, benzol, toluol, xylol, and naphtha, or, combining the latter four, a motor fuel much superior to the best gasolene is obtained.

THE FINANCIAL ASPECT.

Let us suppose that we go to a district where anthracite costs $9 per ton and bituminous coal $4.50 and put up a plant for the manufacture of coke. This plant would, of course, furnish any metallurgical coke that might be required within the same district, although the coal for this purpose would have to be more carefully chosen. Assuming the plant to handle 2,000 tons of coal per day. The yields of the various products would vary slightly according to the analysis of the coal, but taking, for example, the ordinary Nova Scotia coal, we would get from 2,000 net tons per day 1,400 tons coke, 12,000,000 cubic feet surplus gas of 600 B.T.U., 18,000 gallons of tar, 54,000 pounds sulphate of ammonia, and 4,500 to 5,000 gallons of motor fuel, thus:—

Cost of Coal—		
2,000 tons coal, at $4.50		$9,000
Products—		
1,400 tons coke for sale at $6.50	$9,100	
12,000,000 cubic feet gas, at 25 cents per M	3,000	
18,000 gallons tar, at 2½ cents per gallon	450	
54,000 pounds sulphate, at 2½ cents per pound	1,350	
4,500 gallons motor fuel, at 30 cents per gallon	1,350	
		$15,250

In the price given for these products I have discounted war prices, and in the case of sulphate of ammonia have deducted enough off the selling price to pay for the acid lime and other expenses of manufacture.

If the price of anthracite falls below that given (and if any conclusions can be arrived at from figures for the past 10 years, there does not seem to be much hope for it) it would be only fair to assume that the price of bituminous coal would also drop. If, on the other hand, anthracite stays at the price given or continues to rise as in the past years, the comparison is all the more striking.

In one year the total cost for raw material would then be $3,285,000, while the returns on products sold would be $5,566,250, or a difference of $2,281,250. Deducting operating expenses for the year, of $500,000, leaves $1,781,250, or approximately 30 per cent return on the cost of the plant, even at the prices of the past two years. With anthracite selling at $9 per ton, the coke at $6.50 f.o.b. works, could stand a considerable transportation and handling charge and still control the market.

In giving the above figures I have been exceedingly conservative.

The price of coke given is as low, if not lower, than gas coke. The price given for gas is abnormally low, except for certain sections where there is competition by cheap natural gas, but in any district where such conditions do not obtain the price given is very low. The proposition as laid out is, however, strong enough to stand cutting this price materially, and still be more than ordinarily attractive. The price figured for sulphate of ammonia is, I think, the lowest it has touched in 15 years.

I have been purposely conservative in order to show more clearly the commercial advantages of adopting this line of business. If there is a market for a rich gas for heating and lighting, the ttoal gas from the coal can be used for this purpose and the plant itself can be heated with producer gas from an inferior grade of non-coking coal. By this means the gas available would be approximately 11,000 cubic feet per ton of coal, instead of 6,000 as in above figures. If producer gas was used the ammonia could be extracted from the coal used in the producers.

Figuring the cost of the coal used in the producers and crediting the recovered ammonia, we find in setting this against the extra gas available for sale that we have considerable additional revenue to add to the total income.

The province of Nova Scotia presents a specific and very striking case where money is being lost to the country. Approximately 200,000 tons of anthracite are imported yearly; at dealers' prices this would mean at least $1,000,000 per year sent out of the country.

A small coke plant erected at the mines where coal cost would be low could produce coke to replace all this anthracite at a price below that at which the anthracite could be imported.

In addition to saving to the province $1,000,000 now sent out of the country, the consumer would get as good a grade of fuel much cheaper, and the by-products recovered would increase trade and aid in further industrial expansion.

Coal Resources of North America and Exhaustion to Date. Net Tons.

Province or State.	Original Mineable Coal. Anthracite.	Bituminous.	Lignite.	Total.	Exhaustion to Date. (All Kinds).
Alberta	1,182,571,708	217,593,194,364	963,795,942,428	1,182,571,708,500	44,516,881
Arctic Islands		6,615,000,000		6,615,000,000	
British Columbia	670,628,188	77,289,898,719	5,867,996,648	83,828,523,555	60,630,453
Manitoba			176,400,000	176,400,000	
New Brunswick		166,477,500		166,477,500	1,334,353
Nova Scotia		10,715,162,220		10,715,162,220	172,322,387
North W. Territory			5,292,000,000	5,292,000,000	
Ontario			27,562,500	27,562,500	
Prince Ed. Island					
Quebec					
Saskatchewan			65,942,730,000	65,942,730,000	3,707,798
Yukon	46,293,975	231,469,875	5,168,586,150	5,446,350,000	
Alabama		67,613,679,000		67,613,679,000	517,361,982
Arizona		10,032,750	14,147,831,250	14,157,864,000	
Arkansas	90,620,208	1,397,061,510	400,239,252	1,887,921,000	69,622,092
California		27,537,584	16,452,166	43,898,750	7,739,530
Colorado	293,925,417	131,443,447,323	64,212,906,510	195,950,279,250	341,414,715
Georgia		933,376,500		933,376,500	15,179,811
Idaho		600,163,956	100,144,044	700,308,000	
Illinois		201,491,136,000		201,491,136,000	1,988,389,228
Indiana		53,075,121,750		53,075,121,750	538,855,858
Iowa		29,173,252,500		29,173,252,500	339,202,338
Kansas		30,013,578,000		30,013,578,000	247,110,979
Kentucky		123,384,082,500		123,384,082,500	499,147,573
Maryland		8,048,250,000		8,048,250,000	296,899,009
Michigan		12,005,453,250		12,005,453,250	43,936,566
Missouri		84,038,062,500		84,038,062,500	215,900,610
Montana		2,669,020,200	378,619,579,800	381,288,600,000	88,695,304
New Mexico		19,000,822,475	172,926,677,275	191,927,499,750	91,871,659
North Dakota			698,246,104,500	698,246,104,500	13,045,108
Ohio		94,010,175,000		94,010,175,000	1,268,845,957
Oklahoma		54,976,383,000		54,976,383,000	119,904,318
Oregon			1,000,408,500	1,000,408,500	3,491,293
Pennsylvania	20,980,593,853	112,653,761,897		133,634,355,750	9,716,272,407
South Dakota			1,020,804,750	1,020,804,750	
Tennessee		25,676,673,750		25,676,673,750	232,007,481
Texas		8,001,580,073	23,012,296,177	31,013,876,250	56,497,933
Utah		88,221,174,285	159,084,465	88,380,258,750	80,583,364
Virginia	900,407,340	21,609,776,160		22,510,183,500	213,396,715
Washington		11,439,366,246	52,467,707,754	63,907,074,000	121,586,767
West Virginia		152,614,113,750		152,614,113,750	1,800,948,769
Wyoming		80,590,426,139	590,437,268,611	671,027,694,750	236,784,757

From Final Report of Fuel Controller showing coal resources of Canada and the United States, and the amount of coal used from these reserves to the present time.

Wheat Yield Per Acre.

The average yield per acre of fall wheat in Canada is 23 bushels and of spring wheat 19 bushels. This compares with the United States average of 15·5 bushels for winter wheat and 13·2 for spring wheat. The figures are taken from the Canada Year Book which has just been published, and relate generally to 1916-17.

Gold Production.

The gold production of the British Empire was in 1916, the latest year in which complete figures are available, 14,229,844 ounces, or 64 per cent of the world's total. According to statistics in the Canada Year Book, the Dominion comes fifth as a gold-producing country. Australia is third. In silver production Canada takes second place in the world.

THREE MONTHS' OUTPUT OF THE ONTARIO MINES

Over $10,000,000 is value of Metalliferous Production in First Quarter of 1919.

GOOD YEAR EXPECTED

According to statistics furnished by the Department of Mines, the metalliferous production of the mines of Ontario during the first quarter of 1919 was as follows:—

	Ounces.	Value.
Gold	98,188	$2,026,536
Silver	3,105,022	3,152,700
	Pounds.	
Copper, blister	1,724,631	270,493
	Tons.	
Copper in matte	2,674	588,280
Nickel in matte	5,610	2,692,800
Iron ore exported	4,840	41,118
Iron, pig	14,170	399,963
	Pounds.	
Cobalt, metallic	13,594	20,889
Cobalt oxide	127,954	186,036
Nickel oxide	5,070	1,421
Nickel metallic	1,830,569	756,062
Other nickel and cobalt compounds	31,370	11,497
Lead, pig	567,716	34,684
Total		$10,182,479

For the first three months of last year the production had a total value of $14,297,905 and the quantities were in most cases proportionately greater.

For 1919 the values of copper in matte and nickel have been placed at 11 and 24 cents per pound respectively, as against 18½ cents and 30 cents in 1918.

Total shipments of iron ore to both domestic and foreign points in 1919 were 32,376 tons, valued at $146,741.

Total output of pig-iron was 170,325 tons, worth $4,807,614. Figures in above table represent proportional product from Ontario ore.

GENERAL REMARKS.

Although the gold output shows a decrease of 24,104 ounces as compared with the first quarter of 1918, the outlook is such that a substantial increase may be expected for the full year. A great deal of interest is being shown in the gold fields of northern Ontario, and much prospecting and the development of new properties is going on.

Silver from Cobalt and outlying silver camps was marketed to the extent of 3,080,104 ounces. In addition, 24,878 ounces were recovered from the refining of gold ores and nickel-copper matte. Mines producing over one-quarter million ounces are given in order: Nipissing, Mining Corporation of Canada, Kerr Lake, McKinley-Darragh-Savage. Of these, Nipissing marketed over 1,000,000 ounces. Some very rich ore, running over 8,000 ounces to the ton, has been taken from the Foster mine. The price of the metal remained stationary at $1.01½ during the three months, although since May 5 export restrictions have been removed by the Federal Reserve Board of the United States and the price has advanced.

REFINERIES.

Southern Ontario refineries treated 1,257 tons of ore and concentrates and 919 tons of residues, recovering therefrom 1,354,411 ounces of silver, in addition to the cobalt and nickel compounds enumerated in the table. Although 170,478 pounds of metallic nickel were produced, only 16,084 pounds were marketed.

NICKEL-COPPER.

There were 229,822 tons of nickel-copper ore raised and 225,954 tons smelted, as compared with 354,689 and 325,386 tons respectively for the first quarter of 1918. The cessation of hostilities immediately resulted in a decreased nickel demand, and the period of reconstruction has not yet provided a market sufficiently large to absorb the war basis product. In consequence, a curtailment in production.

IRON ORE AND PIG-IRON.

Iron ore shipments include 4,840 short tons from Moose Mountain, Limited, and the Poe Mining Company to points outside the province, while 27,536 tons were shipped from Magpie mine to Sault Ste. Marie for domestic consumption.

Iron ore smelted in this period by six companies operating ten blast furnaces was 362,656 tons, of which 332,479 tons were imported from the United States. The total output of pig-iron was 170,325 tons, valued at $4,807,614. Only the proportion of pig-iron produced from Ontario ore is included in the table, namely, 8·32 per cent of the total. Steel produced by the Algoma Steel Corporation and the Steel Company of Canada totalled 194,505 tons, worth $5,912,459. In addition there was an output at the Sault of 11,631 tons of spiegel and 107,635 tons of coke.

PENSIONS STILL WAITING

There are many additional names of soldiers by whom pensions might be claimed. The numbers given with each name should be quoted in replying to the Board of Pensions Commissioners at Ottawa. The Board has issued the following list of last known addresses of claimants who cannot be traced:—

Pte. John Brown, 1st Depot Battalion (57471).

Pte. Wm. J. Beamish, 152nd Battalion (104989).

Sgt. William E. Barton, C.R.T., No. 2 Casualty Unit (31968).

Spr. David Carruth, 1st District Depot (106703).

Pte. Raymond Hall, C.A.S.C. (108694).

Pte. Joseph Henry Edwards, No. 3 D.D. (58056).

Sgt. Lloyd McIntyre, P.P.C.L.I. (40030).

Pte. Percy A. Fletcher, 56th and 50th Battalions (20504).

Capt. A. Charles Hansen, 31st Battalion (14111).

Pte. Daniel Sweden, No. 2 D.D. and 38th Battalion (43131).

Lt. William E. Scudamore, 1st Hussars (102804).

Pte. Mederic Beauparlant, No. 2 D.D., formerly 159th Battalion (60704).

Pte. Jas. W. Speight, 2nd Reinforcement Company, 5th R.C.H.A. (106862).

Pte. Albert E. Ford, 84th and 75th Battalions (33439).

Pte. Mitchell Cushnuk, No. 12 D.D., formerly 229th Battalion (53085).

Pte. Henri Mousseau, 206th Battalion (106032).

Q.M.S. James Larkin, C.A.S.C. (64679).

L.-Cpl. Davis Boyer, Special Service Company, formerly P.P.C.L.I. (31419).

Spr. Jan. Hanseen, 97th Battalion and 2nd C.R.T. (30617).

Cpl. Edward Charles Ash, 78th Battalion (110833).

Pte. Geo. Funkley, 51st and 4th Battalions (104097-64870).

Pte. Malville N. Meredith, 10th and 194th Battalions (46680).

Pte. H. Croft, 31st Battalion (104424).

Pte. James Murray, 13th Battalion, formerly 55th Battalion (45855).

Pte. Horace Sage, 21st Canadian Reserve Battalion (108677).

Mrs. Marie Y. Boivin, widow of Pte. A. St. Laurent (Albert A. Boivin), (2147).

Pte. Geo. Cherevas, No. 7 D.D. (115412).

Pte. John Wilkinson, 1st Depot Battalion, 1st C.O.R. (11767).

Pte. Narcisse Loiselle, 119th Battalion (106555—6186G).

Sgt. C. W. Grady, 6th C.G.R. (56608).

Mrs. Mary A. Dean, widowed mother of Pte. Geoffrey Dean, 44th Battalion (10767).

Pte. John Oakley, 84th Battalion, formerly 73rd Battalion (25601).

Pte. James McNamee, 24th Battalion (109230—6316G).

Pte. Philius Gauthier, Forestry and Railway Construction Depot (23638).

SUPREME COURT DECISIONS

In the Supreme Court on June 2 judgment was pronounced in the following cases:—

Ontario.

Cobalt v. Timiskaming.—Appeal allowed with costs here and below and judgment of the trial judge restored.

Quebec.

Montreal Nord v. Guilmette Company (No. 2663 in Superior Court).—Appeal quashed for want of jurisdiction, but without costs. Court have raised the question *proprio motu*.

Montreal Nord v. Guilmette Company (No. 4396 in Superior Court).—Appeal dismissed with costs.

Nova Scotia.

The King v. Lees.—Appeal dismissed with costs, the Chief Justice dissenting.

The King v. The Ship *Harlem*.—Appeal dismissed with costs.

Chrysler, K.C., applied to have the case of Ottawa Electric Railway Company v. Township of Nepean, on appeal from the Railway Board in respect to the Britannia line tariff, placed on the list for hearing this session. The application was refused.

In Shields v. London and Western Trusts Company, a motion for rehearing or variation of the minutes was dismissed.

In Hossack v. Shaw a motion for an order granting the costs of an unsuccessful motion to quash the appeal was allowed without costs.

The argument then proceeded on the appeal of Canadian Pacific Railway Company v. Albin. This was an appeal from an arbitrator's award of compensation to respondent for injury to her land and business by construction of a subway on Yonge street, Toronto.

The railway company unsuccessfully claimed in the courts below that where no land is taken injury to business is not a matter for compensation.

Geary, K.C., and Colquhoun appeared for the appellant.

J. Scott, K.C., for the respondent.

The argument in C.P. Railway Company v. Albin was concluded and judgment was reserved.

McCaffrey v. Richardson was next heard. The appellant in this case is mortgagor and respondent mortgagee of land in Toronto.

The mortgage was foreclosed by order of a judge on the pleadings and evidence on discovery and the order was sustained by the Appellate Division. The defendant appealed, claiming a right to have the mortgage action tried to determine whether or not plaintiff had a right to foreclose and whether an agreement to increase the rate of interest was valid or not.

H. J. Scott, K.C., appeared for appellants, and Heighington for the respondents.

The first case taken up by the Supreme Court on June 4 was Union Bank of Canada v. Makepeace. The respondent gave a guarantee for advances that might be made to a firm of manufacturers. The firm made an assignment and the bank brought action on the guarantee. On appeal from a judgment in favour of the bank the Appellate Division held that the guarantee was for future advances only and ordered a reference. Before the Master a new defence was raised, namely, that the bank by agreeing to pay the assignee of the insolvent firm $300 for the equity of redemption in lands mortgaged by the firm had discharged the surety. The Appellate Division held that it had.

Tilley, K.C., and D. C. Ross appeared for the appellant and McBrayne for the respondent. Judgment was reserved.

Canada S.S. Lines v. Austin was next heard. The respondents are lumbermen and contractors, and sued for damages caused by a breach by appellants of a contract to transport 10,000 cords of pulpwood between two points in Ontario.

The question was whether or not a document signed by defendants was a contract. Defendants claimed that it was not even an offer, or if it was, that it was never accepted.

The trial judge and Appellate Division held it was a binding offer accepted by plaintiffs.

Hellmuth, K.C., appeared for the appellants.

H. S. Robertson for the respondents.

In the Supreme Court on June 5 the argument in Canada S.S. Lines v. Austin was concluded. Judgment was reserved.

The next case heard was Ryckman v. Bakanawski. The respondent in this case brought action for damages in consequence of injuries received by falling down a shaft in a mine where he was working. He was a mucker, his work being to rake up the broken stone and other debris after blasting and place it in a bucket on a small car. The bucket being full, the car was run along a track to the shaft, where it was hoisted up. The accident happened by the car running away, and plaintiff, following it, fell down the shaft to the level below.

On the trial the jury found defendant negligent and that plaintiff by raising the track caused or contributed to the accident. The trial judge had refused to non-suit, but dismissed the action on this latter finding. The Appellate Division thought there should be a new trial, which neither party wanted, and they agreed that judgment might be entered for plaintiff.

Judgment was reserved.

McKay, K.C., for the appellant.

A. G. Slaght for the respondent.

S OCK REGULATIONS FOR BELGIAN IMPORT

Affecting Cattle Shipped via Antwerp, Ostend and Zeebrugge

The following has been issued by the Belgian Official Information Service:—

"Below is given the translation of the principal articles of the Royal Decree of April 5, 1919, setting forth the conditions under which importations into Belgium of live stock, such as oxen and cows, sheep, goats and hogs, can be effected from overseas countries through the ports of Antwerp, Ghent, Ostend, and Zeebrugge:—

Article I.

The Royal Decrees of October 13, 1890; January 22, 1987; March 31, 1903; and January 7, 1911, are repealed.

Article II.

Importation of animals of the bovine family, sheep, goats, and hogs from overseas countries is permitted, but most be effected directly through the ports of Antwerp, Ghent, Ostend, and Zeebrugge, where these animals will be subjected to sanitary inspection.

Article III.

If on arrival unfattened animals intended for milch stock or breeding stock are found to be suffering from aphthous fever, they will be segregated in special quarantine quarters at the port of disembarkation.

Consequent to the report of the veterinary inspector, the Minister of Agriculture will decide as to the duration of the period of quarantine.

Animals destined for consumption found to be suffering from the same disease will be taken in close conveyances under the supervision of the local police to the nearest slaughter house, where they will be killed immediately.

Animals suffering from aphthous fever may not be offered for sale.

Article IV.

The Minister of Agriculture will specify the particular conditions relating to the circulation and sale of animals exported from the various overseas countries."

TENDERS

Tender at Kingston.

Sealed tenders addressed to the undersigned, and endorsed "Tender for Stone Rip-rap along Lasalle Highway, Kingston, Ont.," will be received at this office until 12 o'clock noon, Wednesday, June 25, 1919, for the placing of stone rip-rap along the south walls of Lasalle Highway at Kingston, County of Frontenac, Ont.

Plans and forms of contract can be seen and specification and forms of tender obtained at this Department and at the Post Office, Kingston, Ont.

Tenders will not be considered unless made on printed forms supplied by the Department and in accordance with conditions contained therein.

Each tender must be accompanied by an accepted cheque on a chartered bank payable to the order of the Minister of Public Works, equal to 10 per cent of the amount of the tender. War Loan Bonds of the Dominion will also be accepted as security, or War Bonds and cheques if required to make up an odd amount.

NOTE.—Blue prints can be obtained at this Department by depositing an accepted bank cheque for the sum of $10, payable to the order of the Minister of Public Works, which will be returned if the intending bidder submit a regular bid.

By order.

R. C. DESROCHERS,
Secretary.

Department of Public Works,
Ottawa, June 6, 1919.

Wharf at Fort William.

Sealed tenders addressed to the undersigned, and endorsed "Tender for Repairs and Improvements to Wharf at Fort William, Que.," will be received at this office until 12 o'clock noon, Wednesday, July 2, 1919, for the construction of repairs and improvements to the pilework wharf at Fort William, County of Pontiac, Que.

Plans and forms of contract can be seen and specification and forms of tender obtained at this Department; at the offices of the District Engineers, Shaughnessy Building, Montreal, Que.; Post Office Building, Quebec, Que.; and at the Post Office, Fort William, Que.

Tenders will not be considered unless made on printed forms supplied by the Department and in accordance with conditions contained therein.

Each tender must be accompanied by an accepted cheque on a chartered bank payable to the order of the Minister of Public Works, equal to 10 per cent of the amount of the tender. War Loan Bonds of the Dominion will also be accepted as security, or War Bonds and cheques if required to make up an odd amount.

NOTE.—Blue prints can be obtained at this Department by depositing an accepted bank cheque for the sum of $10, payable to the order of the Minister of Public Works, which will be returned if the intending bidder submit a regular bid.

By order.

R. C. DESROCHERS,
Secretary.

Department of Public Works,
Ottawa, June 10, 1919.

Repairs to Pier.

Sealed tenders addressed to the undersigned, and endorsed "Tender for Repairs to Pier at Port Hope, Ont.," will be received at this office until 12 o'clock noon, Wednesday, July 2, 1919, for the construction of repairs to pier at Port Hope, Durham County, Ont.

Plans and forms of contract can be seen and specification and forms of tender obtained at this Dopartment; at the office of the District Engineer, Equity Building, Toronto, Ont.; and at the Post Office, Port Hope, Ont.

Tenders will not be considered unless made on printed forms supplied by the Department and in accordance with conditions contained therein.

Each tender must be accompanied by an accepted cheque on a chartered bank payable to the order of the Minister of Public Works, equal to 10 per cent of the amount of the tender. War Loan Bonds of the Dominion will also be accepted as security, or War Bonds and cheques if required to make up an odd amount.

NOTE.—Blue prints can be obtained at this Department by depositing an accepted bank cheque for the sum of $10, payable to the order of the Minister of Public Works, which will be returned if the intending bidder submit a regular bid.

R. C. DESROCHERS,
Secretary.

Department of Public Works,
Ottawa, June 11, 1919.

EXTENSION OF TIME.

Notice is hereby given that the time for receiving tenders for the alterations and additions to Service Building, Military Hospital, Winnipeg, Man., is extended to Thursday, June 26, 1919.

By order.

R. C. DESROCHERS,
Secretary.

Department of Public Works,
Ottawa, June 12, 1919.

SUMMARY OF THE TRADE OF CANADA

	Twelve Months Ending April.		
	1917.	1918.	1919.
IMPORTS FOR CONSUMPTION.	$	$	$
Dutiable goods	477,565,760	542,126,006	517,480,642
Free goods	405,534,592	413,185,021	377,799,286
Total imports, mdse	883,100,352	955,311,027	895,279,928
Duty collected	151,701,450	161,550,207	155,339,985
EXPORTS.			
Canadian	1,161,429,182	1,546,043,991	1,200,941,313
Foreign	28,822,085	45,332,954	54,118,289
Total exports, mdse	1,190,251,267	1,591,376,945	1,255,059,602
IMPORTS BY COUNTRIES.			
United Kingdom	107,872,816	79,899,348	72,672,214
Australia	727,136	2,327,661	4,925,562
British East Indies	6,793,971	17,052,258	14,780,269
British Guiana	7,209,360	6,516,044	6,803,669
British South Africa	219,122	740,391	1,117,720
British West Indies	14,174,036	10,410,478	8,480,414
Hong Kong	1,357,423	1,950,155	2,101,677
Newfoundland	2,152,362	2,974,485	3,081,929
New Zealand	2,072,387	3,692,062	8,180,357
Other British Empire	1,956,769	1,579,477	757,994
Argentine Republic	2,741,806	965,924	1,112,864
Brazil	1,105,328	928,127	1,158,779
China	1,128,876	1,461,365	1,867,324
Cuba	654,291	1,208,015	3,425,442
France	6,393,744	5,186,792	3,693,747
Italy	1,249,796	770,781	492,930
Japan	8,469,255	12,878,531	13,254,724
Netherlands	1,203,857	1,029,487	536,435
United States	701,655,111	785,144,855	726,611,008
Other Foreign Countries	14,962,906	18,594,791	20,224,870
EXPORTS BY COUNTRIES.			
United Kingdom	741,622,730	845,038,096	527,096,560
Australia	6,130,473	9,642,437	13,628,589
British East Indies	1,405,943	3,959,650	4,066,278
British Guiana	1,658,953	2,135,825	2,417,131
British South Africa	4,132,822	5,088,933	12,122,058
British West Indies	5,220,659	7,552,800	9,400,292
Hong Kong	487,675	1,027,504	1,077,353
Newfoundland	6,691,179	10,108,894	11,469,657
New Zealand	3,433,209	4,420,776	6,119,412
Other British Empire	4,109,608	1,741,428	3,124,796
Argentine Republic	1,706,736	1,154,564	4,729,001
Brazil	965,791	1,125,544	4,141,465
China	416,070	2,108,664	2,863,148
Cuba	3,194,199	3,875,942	5,090,671
France	71,551,163	195,960,563	95,187,381
Italy	9,763,632	4,018,458	13,990,491
Japan	1,236,058	5,124,918	12,113,022
Netherlands	1,203,907	2,429,832	366,177
United States	285,684,553	426,411,799	452,689,056
Other Foreign Countries	10,813,822	13,117,364	19,848,775

Repairs to Wharf.

Sealed tenders addressed to the undersigned, and endorsed "Tender for Repairs to Wharf at Comox, B.C.," will be received at this office until 12 o'clock noon, Tuesday, July 15, 1919, for repairs to the wharf at Comox, District of Comox-Alberni, B.C.

Plans and forms of contract can be seen and specification and forms of tender obtained at this Department; at the office of the District Engineer at Victoria, B.C.; and at the Post Offices, Vancouver, B.C., and Comox, B.C.

Tenders will not be considered unless made on printed forms supplied by the Department and in accordance with conditions contained therein.

Each tender must be accompanied by an accepted cheque on a chartered bank payable to the order of the Minister of Public Works, equal to 10 per cent of the amount of the tender. War Loan Bonds of the Dominion will also be accepted as security, or War Bonds and cheques if required to make up an odd amount.

NOTE.—Blue prints can be obtained at this Department by depositing an accepted bank cheque for the sum of $10, payable to the order of the Minister of Public Works, which will be returned if the intending bidder submit a regular bid.

By order.

R. C. DESROCHERS,
Secretary.

Department of Public Works,
Ottawa, June 11, 1919.

Farmer's Account Book.

Over 15,000 copies of the "Farmer's Account Book," published by the Commission of Conservation for free distribution for the purpose of encouraging farm book-keeping, have been already sent out among the farmers, and recently the Commission received a request from a large dairying association in the Dominion for 15,000 copies for distribution among its members, as stated by the editorial branch of the Commission. The "Farmer's Account Book" is designed especially for use on the Canadian farm, is substantially made, and farmers not supplied with it should write to the Commission of Conservation, Ottawa, for copies, which will be sent free of cost.