DEPARTMENT OF
TRADE AND COMMERCE

CANADA

A FACT A DAY ABOUT CANADA

FROM THE

DOMINION BUREAU OF STATISTICS

JULY 1941

SEVENTH SERIES

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Contents

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A Fact a Day about Canada — Seventh Series.

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Dominion Bureau of Statistics

No. 274 — Tues. July 1, 1941 — Canada's War Record

Travellers who cross the Canada-United States border, often desire information about Canada's part in the war. The following facts may be found useful in answering questions.

1. Canada entered the war after full and free debate and entirely of her own volition on September 10, 1939.

2. Canadian soldiers, sailors and airmen serving in British Isles 80,000

Canadian soldiers, sailors and airmen enlisted for service anywhere for duration of war and at present in Canada in Canadian waters or in North American outposts 220,000
Total on active service 300,000
Reserve Army trained for home defence 170,000
Total at home and abroad 470,000

3. Number of men to be added to Active Army, Navy and Air Force by March, 1942 ..... About 65,000

Number of men to be added for home defence by March, 1942 .... About 40,000

Total at home and abroad by March 1942 ..... About 575,000

4. During 1941 Canada will despatch overseas the 3rd Canadian division, an armoured division, a tank brigade and other troops; increasing numbers of airmen, about 2,500 radio technicians, and naval units and reinforcements.

5. There are more than ten times as many people in the United States as there are in Canada. In terms of potential manpower, Canada's 300,000 on active service would be equivalent to a strength of about 3,000,000 in the United States Army, Navy and Air Force—without taking account of a reserve army for home defence.

6. The Canadian Navy has more than 200 vessels of all types, many of which are serving around the British Isles and elsewhere overseas. By March, 1942, it will have about 400 ships.

7. The Canadian Navy has convoyed ships carrying more than 27,000,000 deadweight tons and has captured several enemy vessels. Canadians in the R.C.A.F. and in the R.A.F. have shot down a large number of enemy planes.

8. More than 1,000 Canadian sailors, soldiers and airmen are now listed as dead or missing. Many Canadians have been decorated or mentioned in despatches.

9. Sailors, soldiers and airmen guard Canada's coasts and outposts. Guns and both naval and air bases are located at strategic points. Canada is co-operating fully with the United States in hemisphere defence.

10. The British Commonwealth Air Training Plan operates 65 schools out of 83 planned for September of this year. It has over 116 establishments of all kinds and operates

about 100 air fields. Twice as many air fighters as originally planned for this time have been turned out, and a very large number have already arrived in Britain. One thousand radio technicians have arrived in Britain from Canada.

The estimated cost of the Air Training Plan for three years is now $824,000,000 of which amount Canada's share will be $531,000,000. Canada provides 80 per cent of the students. Fifteen hundred Americans have enlisted in the R.C.A.F. and 600 Americans are acting as instructors.

11. Supplies which Canada has so far sent to Britain include foodstuffs, raw materials, shells, various types of army vehicle, machine guns, two-pounder guns, explosives and chemicals, gun barrels, aeroplanes, corvettes and minesweepers. The value of such products to be sent to Britain during the present fiscal year (April 1, 1941, to March 31, 1942) will be about $1,500,000,000.

Between the outbreak of war and March 31, 1941, Canada provided Great Britain with more than $500,000,000 to help her finance her war purchases. By March 31, 1942, Canada will have provided Britain with nearly $1,000,000,000 more for the same purpose.

12. War materials now being made in Canada include corvettes, minesweepers, many types of small naval vessel, aeroplanes, tanks, machine guns, two types of field gun, mortars, explosives and chemicals, shells, small arms ammunition, aerial bombs, mines, depth charges, various types of army vehicle, parachutes, gas masks, anti-gas clothing, special wireless equipment, naval stores, anti-submarine equipment, and minesweeping gear.

Articles soon to be built include naval guns, several types of field gun, merchant ships and destroyers.

13. Canada produces large quantities of essential foodstuffs and raw materials -- wheat, dairy products, pork and other meat products, eggs and other important foodstuffs; timber, iron and steel, nickel, aluminum, zinc, copper, lead and other metals and materials vital to modern war.

14. War equipment which Canada is able to export to the United States includes certain types of small arms, some guns and ammunition, certain explosives and chemicals, certain armed fighting vehicles, corvettes and minesweepers, aluminum and certain other metals and materials. There are in addition certain types of clothing and textiles, certain leather, rubber and timber products and certain secret devices in which Canada could probably make an important contribution if these were desired.

15. In the present fiscal year Canadians will spend about 40 per cent of their total national income for war. It is estimated that the national income of Canada in the present fiscal year will be about $5,950,000,000, while the national income of the United States is expected to be more than $80,000,000,000. In terms of purchasing power, the amount which Canadians will spend for war in the present fiscal year would be equivalent to an expenditure in the United States for defence and Lend-Lease aid to Britain of about $35,000,000,000.

Including the money required to meet the ordinary expenses of municipal, provincial and Federal government the amount with which Canadians will have to provide their governments in the present fiscal year will amount to over half the national income. This would be equivalent to an expenditure in the United States of over $40,000,000,000 for the same purposes.

Canada pays cash for everything she buys in the United States and is not accepting Lend-Lease aid.

16. In the present fiscal year Canada's purchases in the United States will approximate $950,000,000 -- nearly twice as much as in the year 1939. Nearly half this amount will purchase war supplies.

17. American tourists can come to Canada and return as easily as in peace time. In Canada they will enjoy a 10 per cent premium on their money and will be able to move about freely.

No. 275 -- Wed. July 2. 1941 -- Bookbinding

An unusual story comes from London about books and their bindings. To most of us one of the glories of old books is their leather covers, some of them lapped over enough to keep the dust out of the inside.

When the Germans began pounding London from the air, smashing and setting on fire great buildings, many precious old books were placed in safes stored in the cellars. When these safes were opened, after the devastating fires had been quenched, it was found that the great heat had turned these leather covers into a kind of jelly-pulp. The books themselves, printed on paper made of linen, stood up fairly well.

Of course nothing can replace in our affection, a real leather cover on a good old book, but apparently something made of linen or some such fibre is more lasting, when subjected to great heat at any rate.

Bookbinding is a craft that dates back centuries to the early Christian era, when literary theses of monastic scribes were first preserved. The primary purpose, of course, was to keep the leaves flat and uninjured, and early books were placed between thin wooden boards. Soon the boards were joined together by bands and a leather covering added to protect the leaves. Thus all the fundamental elements of the modern book were evolved.

All this happened long before printing was invented. Skilled craftsmen of that day fashioned books entirely by hand, and it was a slow, highly specialized art. Many of the precious volumes of ancient ruling bodies of Church and State were bound in leather decorated with rare jewels, enamels and gold inlays. Examples of these sumptuously ornamented books still survive, mostly in churches and museums.

With the introduction of printing about the middle of the 15th century, the number of books produced increased enormously and the making and binding of them was transferred from the monastaries to printing and binding establishments. The materials used ranged all the way from heavy grades of leather to rich velvets.

Today most of the book binding is done by automatic machines, making possible speedy mass production. Sumach tanned goat-skin known as morocco, has been found the most satisfactory leather for use in this regard. However, leather is rather expensive and books are often bound in a woven material known as buckram. The cheaper bindings are made from muslin filled with dressing and will not long withstand the wear and tear of handling.

In Canada, there were 1,293 establishments engaged in printing and book-binding in 1939, and they reported a production valued at over $38 million.

No. 276 -- Thurs. July 3, 1941 -- Making the Tools of War

Take a passing look at an explosive bomb -- a 500 pound one. It is 36 inches high as it stands on end, and 13 inches across. It is made of cast steel, black and forbidding in appearance, shaped much like the churns seen in the country in the old days when dairy butter was an article of commerce, and before barrel churns were invented. Loaded with its proper complement of T.N.T. and ammonium nitrate, sealed, with the firing appliance and the directive fins attached, it is not difficult to see in the eye of the mind, the devastating power of this instrument of war produced in Canadian plants.

A filling plant is as clean as a hospital ward. It is absolutely clean. The visitor wears clean rubbers provided by the plant. These rubbers are used for nothing else but walking on clean floors. Matches, lighters, and other trinkets are left behind when the visitor starts on his trip of inspection. The clothes of the workmen are clean. They wear a standard uniform. The men leave their suits behind when they leave the plant. They are trained to quiet, efficient work. In a place where carelessness might mean loss of life and serious danger to property, carefulness becomes an ingrained characteristic. The enormous size of the plant, the extent of the operations, the movement of traffic in and out, gives a profound and lasting impression of the tremendous activity developed in Canada as a result of the war.

When the shells leave the factory where they are made, they are clean. The filling plant cleans them again -- they might have taken on some extraneous substance on the journey. They are then poured. This is done in several operations. A smoke box is added. The men who are watching the firing of these shells want to know where they hit. Smoke will prove the indicator. When the filling operation is complete, they are sealed, varnished, ready for shipment. They are stored in arsenals, ready for the journey to their final destination. When they explode on the field of battle they exert a pressure of 50 tons to the square inch.

All munitions plants have certain common characteristics. They occupy large ground areas. The buildings are low. They employ large numbers of men -- 3,000 in a shift, -- two shifts to the day in one plant. They are away from large business centres; but life seems to go on a good deal more calmly in a munitions plant or shell or bomb loading plant than in the ordinary busy hives of industry.

The guns of Napoleon fired one shot per half hour at Waterloo. The French 75's in the Great War ran 20 to 25 per minute. The Bofors anti-aircraft gun fires 120 per minute. Time, which brought these modifications, changed also the relative size of munitions plants from one war to another -- put six men at work on the home front to one on the war front. These are the factors which have increased tremendously the material contributions to this war in comparison with the wars of the past.

No. 277 -- Fri. July 4, 1941 -- American Legion Hears Story of Canada's Part in War

Summing up Canada's current contribution to the war, Col. the Hon. J.L. Ralston, Minister of National Defence, told thousands of American Legionaires meeting in Toronto today with the Canadian Corps Association, that over 200,000 officers and men in the Canadian Active Army had enlisted for service, among them over 6,000 from the United States.

In the Army, in England and in Canada, there is now a first, a second, a third, a fourth, and a fifth (Armoured) Division, an Army Tank Brigade, and sufficient battalions mobilized to provide the infantry with another Division. These do not include the men on Active Service on Canada's Coast Defences doing a grim drab job, nor the Veterans Guard of Canada responsible for the exacting duty of guarding and securing the Internment Camps.

Over 600 of the Staff Pilots or Instructors in or attached to the Royal Canadian Air Force are from the United States, and about 15,000 pupils from south of the 49th parallel are included in the R.C.A.F., now totalling 55,000, with over 80 establishments in operation and with three complete squadrons overseas, and airmen being sent for 25 more.

The Royal Canadian Navy now has 20,000 officers and men, and 200 ships and craft of various types (not including harbour craft).

Speaking of the increasing production of instruments of war, the Minister said that hundreds of Bren guns are now being produced weekly; universal carriers are coming off the line at the rate of hundreds per month; the first 25 pounders have been delivered, and quantities are increasing monthly; the pilot models of both infantry and cruiser tanks are out of the shops and early production is in prospect. Three-inch mortars and aerial bombs are being produced and some anti-tank guns have already been shipped overseas.

Direct expenditures this year, the Minister of National Defence stated, will not be far short of the total amount Canada spent in the four years of the last War, an estimated $1,450,000,000 in addition to which $1,150,000,000 will have to be found as Canada's form of Lease-Lend to help finance munitions and supplies which this country is producing for Britain, a total sum of $2,600,000,000 for war purposes in taxes and loans to be provided by less than 12 million people.

No. 278 -- Sat. July 5, 1941 -- Smoked Sardines

Number smoked sardines among the delicacies obtainable in the sea food line. Last year a pack of 8,370 cases of these little fish in the smoked state were canned in New Brunswick.

Procedure in packing the smoked sardine, according to information supplied by the Department of Fisheries follows in the early stages much the same plan as in ordinary sardine canning. The fish are taken in weirs and brought to the cannery by carrying-boats. They are lightly salted during the trip from the weir to the cannery, on arrival are hoisted out and thoroughly washed and in the case of fish selected for the smoked sardine pack, are placed on smoking flakes by hand.

The flakes, or racks, containing the selected sardines, are carefully placed in an automatic smoker where they remain for forty-five minutes. (Use of

flakes means a vast improvement over the old method in which fish were individually hung on hooks and the smoking process took seventeen hours.) After passing through the smoker the sardines go to a dryer where they remain for a short period, actual length of time depending on the condition of the fish. From the dryer the fish go to the packing table where they are placed in cans and the usual procedure in canning sardines follows. This involves snipping off the head and tails with sharp scissors, cutting the fish just the right length to pack neatly in the oval can. After a quantity of oil has been added by an automatic machine, the cans go to an automatic sealing or closing machine where powerful devices roll the covers on the tins so that they are absolutely tight.

Sterilization is next carried out in retorts, and the cans are carried by an automatic conveyor to a washing machine which removes any excess oil which may have been forced out of the cans in sealing operations. Then the cans pass on to a cooling table and so to the final stage where they are packaged for shipment--100 cans to the case.

Sardines are little fish--baby herring to be exact--but there is nothing small about their place in New Brunswick fishery operations. They are an important fish in the Atlantic province. In 1939, for instance, a total of 539,486 cases of sardines were canned in New Brunswick with a value of over $1,923,000. Of course, out of this huge total only a fraction was made up of smoked sardines since canning of the smoked fish was then only experimental but development of this processing method may mean further extension of the sardine market in years to come.

No. 279 -- Sun. July 6, 1941 -- Wood Seasoning

Wartime demand for dry lumber has given great impetus to the seasoning of lumber in dry kilns. The scarcity of certain lines of stock has necessitated the speeding up of the seasoning process to such an extent that even hardwoods are being kiln-dried directly after being sawed from the log. In some cases lumber is now being fabricated into furniture and other commodities a few days after it leaves the mill.

Wood used indoors in Canada must be dried to a point far below that attained in the air-seasoning yards, because of atmospheric conditions in heated buildings during the winter season. Formerly it was the custom with many species of timber to store the green material in yards or sheds for a period of from one to two years followed by a further storage of one to three years in the shop in which the wood was to be worked. With the development of the dry kiln, trade practice for most species required the air-seasoning of the lumber in yards or sheds for at least a year before kiln-drying. The next step in the evolution of dry kiln practice was a gradual shortening of the air-seasoning period before kiln-drying.

To-day kiln design and practice have been improved to such an extent that hardwoods may be dried in from eight to twenty days after sawing, the time depending on the species and the sizes of the lumber. Control equipment in dry kilns has been improved so that during the drying period the moisture content of the lumber is known at all times, enabling the operator to attain the exact moisture content desired. The wood dried in such kilns may be conditioned so as to permit its being cut up without any trace of working of the wood, the quality of the lumber not being affected by the rapid kiln-seasoning.

No. 280 -- Mon. July 7, 1941 -- Preparation For Harvest

Every year a great deal of time is lost during the harvest season due to the failure of some part of the machinery. In addition to being annoying these breakdowns frequently result in loss of yield and lower quality of the grain because the work is not done when it should have been. In many cases this trouble occurs because the machines are not properly checked over and repaired before being sent out to work. A little time spent repairing during a less busy season would have been very profitable.

On the majority of farms the month of July is not a particularly busy one, as evidenced by the fact that most agricultural fairs, picnics and field days are held at this time. While attending these functions is usually profitable in gaining new information there still should be time left to give the harvesting machinery a thorough repairing, during this month.

Even though this machinery was operating in a satisfactory manner when put away last fall, a thorough check up will likely reveal many parts so badly worn that they wouldn't stand the strain of another season. New parts will have to be obtained to replace these. If orders for such are placed well in advance of the time they are needed, it will avoid the last minute rush getting things ready.

This is particularly the case around smaller centres, where machinery agents do not stock a full line of parts. Frequently some parts have to be taken to a blacksmith and if he gets them when he is not too busy he will be able to do more satisfactory work. On examination it is often found that expensive breaks have been caused by failure to replace some less costly part. These would have been eliminated, if a pre-season check up had been given, and the required replacements made.

No. 281 -- Tues. July 8, 1941 -- Lime Production

Lime is manufactured in every province except Prince Edward Island, though the Saskatchewan production is intermittent and very small. Fifty-nine plants were in operation in Canada during 1940. Both high calcium and dolomitic limes are produced in Nova Scotia, New Brunswick, Ontario, and Manitoba, but only high-calcium lime is made in Quebec, Alberta, and British Columbia. Ontario is the leading lime-producing province and supplies more than one-half of the total output. Quebec holds second place, accounting for slightly more than one-quarter of the total production.

Canada has many prospective lime-producing localities because of the abundance of suitable limestone throughout the country. With the northward development of the mining industry, considerable interest is being manifested in making lime from limestone deposits in the Far North.

The old conception of lime as being primarily a structural mate ial no longer holds true, as in its various forms lime now finds a multitude of uses in chemical and metallurgical processes and in construction, agriculture, and other industries. About 85 per cent of the current production is used in the chemical industries.

One of the recently developed uses for white high-calcium lime is in the making of calcium carbonate filler for newsprint and magazine paper. A number of other new uses for Canadian lime have been developed lately, several of them in

connection with the manufacture of war materials. Recent research in the United States on stabilization of clay-soil roads with hydrated lime has shown that on certain clays better results are obtained with lime than with other stabilizing materials.

Lime production in Canada set an all-time record in 1940, when the output amounted to 623,803 tons of quicklime valued at $4,422,000 and 92,927 tons of hydrated lime valued at $773,000. This compares with the 1939 production of 475,000 tons of quicklime valued at $3,327,000 and 77,000 tons of hydrated lime valued at $677,000.

No. 282 -- Wed. July 9, 1941 -- Fifth Columnist

It is a public duty and a matter of self protection for all Canadians to circumvent the enemy Fifth Columnist. German subversive activities were instrumental in the subjugation of various European countries and enemy organizations existed in all of them. It would be futile to assume that similar organizations do not exist in all free countries.

Canadians should be constantly on guard against enemy lies, false rumours and alarmist reports. If gathered in conversation, seen in print or heard on the radio, it is wise to check their authenticity.

If a statement is credited to the radio the following details should be learned; time and date, station, wavelength, language, where broadcast was heard and, most important of all, by whom. If a report is credited to the printed word, the name of the newspaper or publication and its date should be established. If rumours are credited to conversational sources every effort should be made to trace the original source of the rumour together with the names of the persons present during the original conversation. Although it may be difficult to trace the origin of a rumour of this nature, the fact that it has originated through an individual, of a particular type, may in itself be of some value.

Rumours can not always be officially denied - this is particularly true of reports on the loss of ships. An official denial frequently does more harm than good since it gives undue prominence to a rumour that would perhaps not otherwise have got into print. It may also provide the enemy with information which he is seeking, e.g. the disposition of the ship in question. An excellent example of this was the faked distress message from the Empress of Australia which was directed to a U.S.A. commercial station. The enemy obviously hoped to obtain from official sources a statement as to the vessel's position. The best thing to do on hearing a rumour of this, or any other suspicious variety, is to report it immediately with all possible details as to the sources, etc., to a service authority.

No. 283 -- Thurs. July 10, 1941 -- The Red Raspberry

The red raspberry is a perennial with biennial canes. Each season new shoots are developed, either from buds at the base of the old cane or from adventitious buds formed along its roots. These shoots complete their terminal growth that same growing season but produce no fruit. These are the potential prospects for the next year's crop. If given proper cultural care, fruit buds will form on these shoots late that summer, and in the spring of the next or fruiting year these

fruit buds will develop into short branched laterals on which the fruit is borne. Shortly after the fruit is harvested the old canes die. That is, the canes are biennial, living only a part of two seasons. The roots, however, are perennial, living on for many years and producing a crop of new shoots each season.

Therefore, each year these fruited-out canes must be removed from the plantation. Opinions differ regarding the time of their removal. In plantations that are windswept or where the winter's snow settles deeply, the old canes may afford some mechanical support for the young shoots. Some authorities do not advocate such sites for raspberry plantations but rather favour the removal of the old canes immediately after the fruiting season is over, thus allowing of better sanitary conditions and disease and insect control within the plantation.

Varietal differences in growth habits and vigour necessitate different pruning and training practices. In the hedge-row system with the varieties Lloyd George and Taylor, which produce a multiplicity of shoots, the suppression of all shoots coming up between the rows (after the plantation has become established) is imperative, while some thinning out of the shoots within the row is advocated at the time the old canes are removed, while the more-upright-growing varieties: Viking, Herbert and Cuthbert, seldom produce sufficient shoots to require thinning out at that time. If the old canes are thus removed it is best to leave more new shoots than are actually required for the next year's crop, thus providing a reserve against accident or winter injury. These surplus canes would be removed at the time of spring pruning.

No. 284 -- Fri. July 11, 1941 -- Where Are The Old Rifles?

Where are the old rifles, those which turned back the Huns in the Great War and thus became partly wrecked in the struggle? Everybody seems to have forgotten them. They have been retired, pensioned, so to speak, left to a sedentary life in armories and other odd storage places throughout the country.

But the government, like the elephant, has a long memory. It knew where they were. Rifles are hard to get, delivery is slow -- so these veterans have been called on for further service. They are now in an Ontario town -- thousands of them -- undergoing renovation. Fifty men are in the plant doing nothing else but turning old rifles into new.

If they could only speak, what tales these battered veterans could tell. They were in every conflict in the Great War, in every advance, in every retreat. They witnessed magnificent courage, much tragedy, some comedy. Such is life to a rifle on active service. Some of them carry stories on their faces, the initials of the men who held them, the initials of the girls they left behind them. Sometimes they carry the names of battles. The grim notches filed in the barrels are records, between the lines, of foes slain in battle.

Some are worn beyond hope of repair, but they have salvage value. It is always possible to take some parts from one and some from another, also worn and now useless, and by adding the parts together and supplying some which can be made in the plant, provide a new rifle -- at least as serviceable as if it were.

What parts wear out first? It may be the handguards. Quite often it is the barrel or the forends -- the wooden section under the back part of the barrel. The barrels pass through some rather trying experiences. Sometimes, as is natural in

a gun which has served in War it has failed to receive proper attention. It may be left out, partly buried, and for some time uncleaned. The inner surface of the barrel starts to corrode. The rifling is destroyed and it is no longer an effective weapon.

There is another peculiar "disease" of gun barrels. It is called "ringing". It is produced when the gun is fired while there is something lodged inside the barrel. When that happens, the bullet may not leave the gun. It becomes thoroughly packed against the obstruction and the tremendous volume of the gas, exerting its pressure upon the bullet and the barrel, expands the inside of the barrel and a small area in close proximity to the obstruction is enlarged. If this happened in a shot-gun it would be "good-night" to the gun, conceivably also to the man who held it, but a rifle barrel has tremendous resisting power. When it has passed through an experience of this kind, it will never be quite the same again!

When these rifles are gone over there are, of course, some which are scrap, save only for the salvage left in them. Some have a value only as drill rifles that are not to be fired. They serve the purpose of giving trainees, in the first days of their military experience, the "feel" of having a rifle in their hands. There are others which may be termed emergency rifles. They would be all right for the Home Guard, but they would not be turned over to regular troops as service rifles for prolonged use. Then there are the others, and a good many of them, which for all practical purposes, after renovation, are as good as new and quite able to take the "gaff" for another campaign - even if Hitler lasted for longer than seems, at the moment, probable.

There are very few gunsmiths in Canada - that is, men who make a regular business of it. Of course there is always the handyman who can fix anything, but the foreman in this plant knows his guns because guns have been his life. Many of the men who do the work are farm boys, handy fellows with their hands, accustomed to fixing up things at home. They like their work. "It is rather nice", said one chap with a blush, "to take these old guns apart and patch them up and feel them growing young again under your hands until they become almost as good as when they left the factory".

Before it leaves the plant, each rifle is tested. The real test is the firing test, for a good rifle must function smoothly in every part and shoot straight.

No. 285 -- Sat. July 12, 1941 -- Motion Pictures

The motion picture has become the most popular form of public entertainment and the business of satisfying the demand for such amusement has assumed a corresponding importance. In Canada for instance the number of admissions to movie houses in 1939 totalled 138,497,000 and the total paid in admissions was $34,010,115. Looking at it from the point of view of per capita expenditure, each man, woman and child in the Dominion spent slightly more than three dollars on this form of entertainment in the year 1939. The average admission charge was 24.5 cents.

According to statistics compiled by the Bureau there were 1,186 motion picture theatres operating in Canada in 1939. These presented a total of 676,773 programmes divided in the proportion of 63 per cent double-feature and 37 per cent single-feature types. The proportion of double-feature to total programmes varies, being greater in the larger cities than in smaller centres. Approximately 65 per cent

of all programmes shown in Ontario and British Columbia were double features while corresponding ratios for other provinces were 62 per cent for Manitoba, 49 per cent for New Brunswick, 47 per cent for Nova Scotia, 46 per cent for Alberta and 26 per cent for Saskatchewan.

Amateur stage performances presented along with motion picture entertainment declined in popularity in 1939, while professional performances recorded an increase. There were 101 theatres which held amateur performances together with motion picture entertainment for a total of 1,107 days in 1939, whereas professional vaudeville acts were shown in 108 theatres for 4,514 days. Stock companies or road shows giving stage performances without motion picture entertainment played in 65 theatres for 472 days.

When we go to the movies very few of us realize that the idea of reproducing a moving scene in this fashion was conceived and developed by a blind man, Plateau of Ghent, who in 1833 manufactured a toy which he called a "phenakistoscope. This toy was designed to create the illusion of continuous motion by means of numerous drawings viewed in rapid succession. Throughout the years great strides have been taken for the betterment of presentation. In this connection such great names as Muybridge, Edison, and Lumiere are forever linked.

No. 286 -- Sun. July 13, 1941 -- Britain's Lifeboat Service

Every four hours in Britain, all through the day and night, a life is saved by men with rough faces, old blue jerseys and a lot of magnificent, native-born courage. They are the men of the Lifeboat Service. Many Canadians have been saved by these gallant men.

Round the salt water girdle of Britain they wait, ready to rescue the merchant seamen of this country or her Allies when danger strikes from the grey hull of a U-boat or the black shadows of a Nazi warplane. On the average, they are now saving six lives a day.

In the first eighteen months of the war the men of the Lifeboat Service - the volunteers of the Lifeboat Service - saved 3,500 lives; more in that vital, vivid year and a half than in the last ten years of peace.

On one single, bleak, storm-tossed day, just before last Christmas, they saved 71 lives in 24 hours. From the beaches of the grey East Coast, from the sheltered coves that face the Atlantic breakers on the west, the lifeboats of Britain slid down the runways. On that day alone they made 19 launches.

What did that cost the Service? It is hard to say. Britain has 157 lifeboats, of which 146 are motor driven, dotted around her coasts. Each one is manned by volunteers - 2,000 of them in all - for the only members of the Service who get a fixed wage are the motor mechanics who are always on duty at the station. They are paid £3 to £4 a week. Such full time men are necessary to keep the engines in order.

Coxswains of each boat, gallant, grizzled men whose faces are wrinkled like parchment, get an honorarium of about £15 a year. This is because they have a good many odd jobs to do, even when there are no services. Every lifeboatman gets compensation if he is injured. But though the men are volumteers - and remember, nobody can order them to go to the rescue of broken, battered ships - they get paid

after each service they make. The scale of payments is an elastic one, based on a minimum which is nearly always increased.

The men of the Lifeboat Service have not gone unscathed. Lives have been lost, for the Nazis make no distinction between any of the men who serve the sea. They, too, face constant dangers of attack by mine, by torpedo, by machine gun.

At night the lifeboatmen must leave their shores without a light to guide them past their coasts. They must launch the boat in the dark. There are no floodlights to help them, and once at sea, they are almost always under fire, as circling warplanes or U-boats try to finish off their work.

No. 287 -- Mon. July 14, 1941 -- Sealskin for our Ladies

Canada's decision of a couple of years ago to market fur seal skins in the Dominion itself continues to be justified by events. Another thousand finished skins from the Canadian share of the pelts taken at the Pribilof Island rookeries in 1940 under the Pelagic Sealing Treaty were offered for sale by the Department of Fisheries at a mid-June fur auction in Montreal and they were bid in quickly at an average price of a little more than $34 -- a very satisfactory figure.

Of the thousand skins 650 were browns and 350 blacks. The top price received for a skin was $46.50 and the lowest $20. The former was paid for some large, particularly fine skins and the latter for a few "medium smalls" which were a bit faulty.

All of these skins, and eight or nine thousand others, were originally delivered to the Canadian authorities in the raw state last year by the United States Government which, under the sealing treaty, has the exclusive right to hunt seals at the Pribilofs and adjacent rookeries but must hand over to the Dominion fifteen per cent of the annual take of pelts. As there is no plant in Canada equipped to dress and dye sealskins, the raw pelts were shipped to London, England, for processing. Since then several thousand of the finished skins have been brought back to the Dominion for marketing, and others will follow from time to time.

At one time it was Canada's practice to have its Pribilof skins both processed and marketed at St. Louis, Mo., an important fur trade centre. A few years ago a change was made and the raw skins were shipped to London for finishing and sale. In 1939, however, conditions on the European market made it desirable to follow some other plan. Canada decided to continue to send the raw pelts to the Old Country for processing but to see what could be done in marketing the finished skins in the Dominion itself. At that time Canadian furriers had to buy their supplies of sealskins outside the Dominion. There was a bit of uncertainty at the outset as to how successful the new marketing plan would be but things have gone well with it. All of the skins offered at Montreal auctions (the first lot was put up in the latter part of 1939) have been sold. At the first sale the average price received was a little less than $14. At subsequent sales the prices have always been well above that, with $36.40, the level for the sale held last April, the highest average.

No. 288 - Tues. July 15, 1941 -- Scientists Lend a Hand

Our Commonwealth scientists are using the varied resources of the British Empire to strengthen Britain's war effort. On every convoy to Britain and to Canada come strange little parcels - blocks of coral mud from British Honduras, penguin oil from the Falklands, cinnamon bark oil from the Seychelles. In the laboratories of the Empire research workers put these and other curious products under the microscope and discover new treasures and new uses for known resources.

Coral mud is turned into building blocks, coconuts into box board, seaweed into soup, leaf oil into soap, Water lily seed from the Sudan proved to be a farinaceous foodstuff that could be used in the manufacture of cattle fodder.

A chip from the stump of a pine tree was sent in by a Canadian timber man. He was told how resin, turpentine, camphor, liquorice and numerous other unlikely substances could profitably be made from the pine-stumps that littered his ground.

A sample of horn-blende submitted by South Africa occupied weeks of intensive work before the scientists were satisfied that it could be used only for decorative purposes in coloured cement mixtures. A chunk of rock from Eire, which the finder thought might contain cobalt, was shown to contain little cobalt but consisted largely of valuable copper, lead and zinc ores indicating a deposit well worth exploiting.

Quartz sands from Ceylon were found to furnish material for high-grade glassware, and plants growing wild in Kenya were found to possess important new medicinal values. Fragments of rock from Uganda have given the clue to a new minefield and the present shortage of certain drugs may be solved with hitherto neglected roots from Rhodesia.

From arid central deserts of Australia have come chips indicating the presence of molybdenum, the rare white metal used in specially hard tool steels. In the green jungles of the Andamans were found new supplies of copra for use in high explosives.

No. 289 -- Wed. July 16, 1941 -- Huge Bomb Plant in Canada

Just about a year ago a contractor's truck ploughed through loose sand to the middle of a blueberry patch in an out-of-the-way spot in the Province of Quebec, and began to unload tools. Almost as far as the eye could see in any direction there was nothing but rolling sand dunes and low underbush.

Today one of the world's largest aerial bomb factories stands in the heart of that blueberry patch. Its normal output will be well over one hundred thousand 500-pound bombs per year.

The bomb plant is an excellent example of what can be achieved by a democracy at war. Construction was begun on August 15, 1940. Machines and equipment began to arrive almost before the roof was on. Steel was melted for the first time on January 5. The first trial bombs were moulded on March 7, just a little less than seven months after the first sod was turned. Mass production is now underway and the output is growing each day.

The new factory is one of the largest in the world with but a single pro-

duct. It has been expertly designed for maximum efficiency and output. The processes are arranged in production line fashion, reducing to a minimum the costly, time-killing handling operations which would be necessary in an old factory adapted to bomb manufacture.

The production has its beginnings at two points, the sand tower and the scrap heap. Minature mountains of scrap steel stand at one end of the plant. Rusty automobile engine blocks, old bedsteads, broken farm implements, great chunks of railway steel, bales of old wire, and a weird collection of junk from every section of Canada, are picked up by giant magnetic cranes, loaded in great buckets, and sent to feed the maw of one or other of two seven-ton electric furnaces.

At the other fork of the production line, moulder's sand brought all the way from Illinois is fed from the sand tower into great machines that form the moulds and cores for the bombs. The moulding method is unique, in that four bomb shells, each weighing about 300 pounds, are cast at the same time in the same box. Molten steel, sizzling and gurgling at a temperature of almost 3,000 degrees, is carried along the line of moulds by an overhead crane. The furnaces are charged every three hours and each produces sufficient molten steel to make 32 bombs at each pouring.

After the moulds have cooled they are taken to a "shake-out" machine, a gigantic vibrating platform which jolts the hard-baked sand from the casting and breaks up the central core. At this stage the four bombs are joined together by a criss-cross of metal, but this is removed quickly by acetylene torches. A protruding neck of steel on each bomb, known as the riser, is cut off by a special saw which shears through metal with ease.

The bomb is still rough, but skilled workmen soon finish off the rough spots with portable grinding wheels. The next operation is annealing. About 130 bombs are loaded upon a steel flat car and rolled into a huge oven, where they remain at a temperature of 1,600 degrees for some hours. This softens the steel for machining and makes it more uniform.

The machining operations require a high degree of skill and precision and the operators of the monster special lathes are experts in their art. One set of machines cut and drill and tap the bomb itself so that the tail assembly and exploders will fit perfectly. The other line of machines handle the component base plugs. One of the final operations is that in which a suspension lug is welded to the side of the bomb. This ring, which must withstand a test pull of 3,500 pounds, is used in handling the bomb and in fastening it in place beneath the plane which will carry it to its ultimate destination.

The bomb is then immersed in a tank of water and filled with air at a pressure of 30 pounds to the square inch, to determine if there is the slightest leak in its walls.

From the test tank the bomb goes to the "de-greaser", where it is bathed with chemicals which remove all oil, grit, chips of steel, and other foreign matter. The interior of the bomb is then coated with a special varnish which leaves the inside smooth and gleaming. A coat of white primer paint on the exterior, and a final inspection by Government inspectors, and the bomb is ready for shipment to the filling plant, where its 200-pound quota of high explosive will be put in.

No. 290 -- Thurs. July 17, 1941 -- Sugar Plantations in Canada

Sugar plantations are not necessarily limited to the regions of the south for Canada had 80,000 acres of them in 1940. Forty thousand of these acres were in Ontario, 24,000 in Alberta and 16,000 in Manitoba which indicates a fairly wide distribution. The acreage is no less in 1941 and it is quite possible that the plantations will extend into Quebec province by 1942. The essential difference between Canadian sugar plantations and those of the south is the substitution in Canada of the sugar beet for the sugar cane, but each produces identically the same kind of sugar.

A record yield of 825,344 tons of sugar beets was harvested in Canada last fall, and since each ton produces nearly 300 pounds of refined sugar this meant a total production of 213,602,511 pounds of refined sugar, or 18.5 per cent of Canada's refined sugar production. If conditions for the 1941 crop continue favourable, this production should at least be maintained if not increased.

The infant of the sugar beet industry is the Manitoba acreage. While small acreages were grown in that province in previous years, large scale production began only in 1940 when a beet sugar factory was erected near Winnipeg to handle the crop.

Alberta's sugar plantations are distinctive from the others in at least one respect and that is their location on irrigated land. Two factories are equipped to handle the beets, one at Raymond and the other at Picture Butte.

Ontario has three factories located at Toronto, Chatham and Wallaceburg, respectively, and these handle the crop from the extensive plantations which occur throughout the counties of Kent, Lambton, Essex, Elgin and Middlesex.

No. 291 -- Fri. July 18. 1941 -- Salvage Going Over the Top

Salvage continues to be a lively topic all across Canada these days. Reports of salvage activities getting under way in tardy districts, and collections from well organized districts, are highly inspirational. Salvage is going over the top.

But all is not entirely smooth sailing. A new type of "racketeer" has developed. He is an unscrupulous person taking advantage of the salvage drive in rural districts. He collects salvage in the name of the Red Cross or some other well known local salvage organization, without in any way being associated with the work, and later sells the salvage for his own personal gain.

Several prosecutions for fraudulency have already been instituted. But officials of the National Salvage Office point out that prevention is better than cure.

"Farmers and rural housewives who gather salvage for bonafide voluntary local salvage organizations," they say, "should make certain that the persons who call to pick it up are accredited representatives, and salvage organizations should have their collectors carry a document of identification."

Such precautions would nip in the bud the mean activities of these new "racketeers" trying to prey on the generosity of the public in wartime.

However, this is only a dight temporary unpleasantness, salvage officials believe. It will in due course be removed from the salvage picture.

There is another mildly disturbing element, though, which is causing officials a little concern. And that is the problem of sorting salvage. Does the general public realize the complexity of salvage operations? That is the repeated question at the National Salvage headquarters.

"Sometimes we wonder," said the supervisor of the drive. "We are constantly in communication with local salvage organizations whose work is slowed up because those who donate salvage too often neglect to follow the packing directions. It is most important to see that the various items of salvage are kept separate."

Time may be saved, the amount of energy required from voluntary workers may be reduced, and the returns from the sale of salvage may be increased, by proper sorting and packing in the homes, the supervisor explained.

In great Britain, where salvage is compulsory, brief instructions for packing salvage are broadcast by BBC every morning just after the news. Beginning this week the CBC, and most of the other private Canadian radio stations, are cooperating in a similar drive to keep salvage-conscious Canadians aware of the problems of sorting salvage.

No. 292 -- Sat. July 19, 1941 -- More About Salvage

Suggestions to those saving waste materials for the salvage drive include: pack all rags separately, cottons in one parcel, linens in another, woollens in a third, and silks in a fourth; tie newspapers up in neat and secure bundles, keep magazines separate, flatten out all cardboard boxes, put kraft wrapping papers together; dry all bones and put them in a stout box or wrap them carefully, but omit fish bones; sort out the various kinds of non-ferrous metals and tie similar kinds together.

"Following these suggestions," the supervisor said, "would mean a lot to the voluntary salvage workers. They can get quicker sales and better prices for clean, sorted salvage. Moreover, the workers are stimulated to more intensive efforts when they have this kind of public co-operation." Nevertheless, despite "racketeers" and careless packing, salvage is in a booming condition.

Of particular interest is an impending development in the paper market field. The National Salvage Office has just learned that a great many Canadian manufacturers and users of paper boxes insist on paper board made chiefly from wood pulp. Satisfactory paper board is being made from waste paper, however, and plans are now under way to make the industrial use of such paper board more widespread.

"The effect of this change-over in a Canadian industrial process would be important," salvage officials declare. "It would give an immediate market for the quantities of waste paper being collected by voluntary salvagers, and that would mean increased funds for war charities. It would also release for export a considerable amount of woodpulp, and that would mean increased foreign exchange for war purposes."

The controlling forces in this potential improvement in Canadian paper economy are the manufacturers and users of paper boxes. Up to date they have

insisted on paper board types made chiefly from ground wood pulp.

"Other types of paper board, such as that made from waste paper, is equally satisfactory for most purposes. The modern improved technique of paper-board making at the paper mills should be capitalized on," says the salvage office.

"We hope that the manufacturers and users will co-operate by altering their requirements," the officials concluded.

An educational campaign to this end is to be undertaken at once by federal authorities. If successful it will mean a vast improvement in the entire paper industry. It will also give a fillip to the salvaging of waste paper.

Paper is one of the first types of waste materials available, being found in every home, store, factory, and office building. To make its salvage economic in localities some distance from markets will stimulate the collection of all types of salvage.

No. 293 — Sun. July 20, 1941 — Mental Institutions

The eighth annual report on Mental Institutions in Canada for the year 1939 reveals the fact that there is no field of medical-social effort more important and at the same time more difficult of solution than that which relates to mental sickness. The care and treatment provided in mental hospitals constitutes only one small part of the problem as there is an even larger problem involved in the very large group of mentally maladjusted individuals who are never admitted to hospital and it is only through concerted effort on the part not only of the national and provincial governments but of every individual citizen and every social and professional group that Canada can hope to ameliorate this increasing menace to the well-being of the Canadian population.

On December 31, 1939, there were under care and treatment in 59 hospitals in Canada 43,275 persons with an additional 3,972 on parole and under supervision in approved boarding homes. The steady increase in the number of resident patients at end of each year since 1931 without an equal increase in the number of beds necessitates overcrowding of such proportions as to constitute a serious problem in almost every province. While the normal bed capacity of all mental hospitals on December 31, 1939 was 23.4 per cent greater than in 1931, the resident population on the same date showed an increase of 36.6 per cent over that of 1931, making a percentage excess of inmate population over bed capacity in 1939 of 10.3. This lack of accommodation taxes the health and safety both of the staff and patients and interferes very seriously in the provision of adequate treatment towards the early rehabilitation of patients.

A total of 10,551 were admitted to Canadian mental hospitals during 1939, of which number 8,301 were first admissions and 2,250 were re-admissions, while 6,979 were discharged. Of those discharged, 26.3 per cent were classed as "recovered", 53.2 per cent as "improved" and 12.6 per cent as "unimproved". Of the total resident patients at end of the year, 33,792 had a major psychosis (Insane), 8,359 were mental defectives, 684 were epileptics and 139 were suffering from other types of mental sickness. A staff of 7,961 looked after these patients and the total expenditures for maintenance of patients was $14,480,974 while the expenditures for new buildings and improvements totalled $2,126,067.

No. 294 -- Mon. July 21, 1941 -- Conservation of Gasoline

Drastic regulations have been issued to conserve gasoline and oil supplies. The aim is a voluntary cut of 50 per cent. in consumption. Here are steps taken, as announced by George R. Cottrelle, Oil Controller.

(1) Prohibition of sale, distribution and delivery of gasoline from 7 P.M. to 7 A.M. week-days and from 7 P.M. Saturday to 7 A.M. Monday for week-ends.

(2) An increase of one cent a gallon in the price of gasoline and other "white" products of petroleum, including kerosene and distillates used in tractors.

(3) Prohibition of the use of credit cards, putting gasoline and oil sales on the cash and carry basis to private consumers.

(4) National campaign urging motorists to cut down severely on pleasure use of automobiles.

Reduction in gasoline consumption is essential if the war effort of Great Britain and Canada is not to be impeded. Tankers have been lost in the Battle of the Atlantic. Britain has asked for eight Norwegian tankers now supplying Canada. Delivery of these tankers will further reduce Canadian stocks.

"In order to continue and increase our aid to Britain," says George R. Cottrelle, Oil Controller, "to ensure our war effort, there is no alternative other than that the citizens of Canada must deny themselves pleasure driving, motor boating, the use of fuel oil where another fuel will do. All non-essential uses must be curtailed at least fifty per cent. and without delay."

No. 295 -- Tues. July 22, 1941 -- An Old Bounty is Paid.

Most people are glad enough to cash cheques as soon as they get them, but here's a man who waited more than 30 years to present one for payment!

One of the cheques issued by the Dominion Government in payment of fishing bounty away back in February, 1910, went to a fisherman in Gabarus Barachois, on the shores of Cape Breton Island, N.S., but it didn't show up for payment until 31 years later, and a bit more. Was it still 'good'? Of course, it was. Canada always honours her signature.

As a matter of fact, though, the fisherman had received the face value of the cheque a few days after it reached him in 1910 and the man who waited 31 years for his money was a Gabarus Barachois merchant who had cashed the cheque for the payee--and then mislaid it.

The years went by and, then, a few months ago the thin bit of paper, bearing the fisherman's endorsement, was found by chance in one of the merchant's old books where it had remained, long forgotten, ever since 1910. The holder wrote the Dominion Department of Fisheries at Ottawa, asking if the cheque was still 'good' and if he could get back the money he had advanced to the fisherman whose name it bore on the face and endorsement on the back. "Certainly", said the department, in effect; "present the cheque in the usual way and it will be honoured." So now the merchant has the money and the record of that particular cheque is closed at last.

Fishing bounties, by way of explanation, are payments made to Atlantic Coast sea fishermen and owners of fishing boats and vessels under authority of a statute known officially as "An Act to Encourage Development of Sea Fisheries and Building of Fishing Vessels." Bounties are paid annually, totalling each year about $160,000. The basis of distribution varies a little from year to year but, ordinarily, those boat fishermen who establish eligibility to receive bounty are paid five or six dollars each, vessel fishermen between six and seven dollars, fishing boat owners a dollar for each boat of not less than 12-foot keel, and fishing vessel owners $1 per registered ton up to a maximum of $80 for any one vessel. Individually, of course, the payments are not very big but in the aggregate they represent substantial annual assistance to people engaged in adding to national production from Canada's natural resources.

No. 296 -- Wed. July 23, 1941 -- Famous Canadian Lighthouse

Famous in the annals of the sea, the oldest standing lighthouse in Canada is located on Sambro Island at the entrance to Halifax Harbour. It has brought countless mariners to safe harbour.

Proposal to raise funds for the erection of the Sambro Light by means of a lottery was first made in Council in 1752, but no action was taken until the Assembly met in 1758, when other provision to cover the cost was made. Construction was begun in 1759 and the present stone structure, eighty-two feet high, was completed the following year. The lighthouse stands on a rocky eminence one hundred and forty feet above sea level, and its light may be seen for a distance of seventeen miles. For generations ships have been guided to safety by this light, which often was the first landfall of their captains on the voyage from overseas and was a message of cheer to sailing craft tossed for weeks on the turbulent North Atlantic.

To the average landsman no other aid to navigation possesses quite the romance of the lighthouse tower, whose light shines over both calm and storm-swept seas and is at once a warning and a guide to navigators.

In tribute to the important part the Sambro Light has played in the maritime history of the Dominion there has been erected a suitable memorial in Sambro village on the mainland, from which the lighthouse is clearly visible.

No. 297 -- Thurs. July 24, 1941 -- Indian Health Improving

Indian health in Canada is improving, reports the Indian Affairs Branch. A steady increase in the Indian population, now exceeding 118,000, during the past ten years indicates the value of preventive medical action in combating disease on the Indian reserves. With few exceptions, reports from the various agencies throughout the Dominion for the month of May show only minor ailments, no epidemics and a general change for the better.

Marked progress has been made in combating tuberculosis among the Indians. In Ontario the Six Nations Reserve of 6,000 people is now free of this disease, and out of a total of 1,892 Indians examined during the autumn of 1940 in boarding schools, day schools, and on reserves in Saskatchewan only 25 active cases were found. Sulphanilamide treatment has greatly decreased the prevalence of trachoma

on the Indian reserves.

In safeguarding the health of the Indian population, the Department employs about 500 doctors and dentists on whole or part-time work, and maintains a number of hospitals and a small but efficient field nursing service. It supplies medicine both by central purchase and local prescription, and engages in every activity relating to the health of about 800 separate Indian communities.

No. 298 -- Fri. July 25, 1941 -- Fur Production Up

Canada's raw fur production in the twelve months ended June 30, 1940, reached a value of $16,455,635, an increase of $2,168,698, or 15 per cent, over the preceding season. These figures represent the total value of pelts taken by trappers and those sold from fur farms, the latter accounting for approximately 35 per cent of the whole.

Pelts of all kinds produced during the 1939-40 season totalled 9,536,079 as compared with 6,492,222 in the preceding year. Squirrel and muskrat accounted for most of the increase. Squirrel pelts harvested in 1939-40 totalled 4,076,463 valued at $778,909 as compared with 2,296,139 valued at $245,312 in 1938-39, and muskrat pelts numbered 3,174,770 worth $3,772,284 as against 2,295,550 valued at $2,011,469 in the previous season. Higher average prices were received for squirrel and muskrat, as well as for beaver, ermine, fisher, cross and red fox, and marten.

Silver fox, as in previous years, held first place in order of value, with muskrat second, and mink in third place. In the preceeding year mink held second place. Silver fox production for 1939-40 included 284,201 pelts valued at $4,385,663 as compared with 319,693 pelts valued at $5,660,722, and mink production totalled 346,872 pelts valued at $3,084,095 as against 220,359 pelts worth $2,103,774 in 1938-39. Practically the entire production of silver fox pelts and nearly half the production of mink pelts came from the fur farms.

Fur is still the principal source of livelihood of the native population of the Northwest Territories, and from this area the value of raw fur production in the 1939-40 season amounted to $1,022,356. The fur industry still plays an important part in the lives of many other Canadians, the continued demand for furs of both common and luxury varieties keeping fur trappers and fur farmers actively engaged.

No. 299 -- Sat. July 26, 1941 -- Control of Weeds in Lawns

There are times when most home owners wish that some easy way could be found of killing weeds in lawns. The most miraculous results which have been obtained in the control of certain weeds in grain crops has possibly led many people to expect equally good results in the eradication of weeds in lawns.

In a lawn, however, there is usually a mixture of weeds, some of which are annuals, some perennials. It is difficult therefore to find one herbicide which is equally effective against all weed species. Nevertheless, progress has been made toward the objective of eradicating weeds from lawns without killing the grass.

The results of experiments conducted at the Central Experimental Farm, Ottawa, show that the growth of many species of weeds can be definitely checked by applying calcium cyanamid dust at the rate of approximately 5 or 6 pounds per 1,000

square feet of lawn. It is essential that this dust be applied uniformly, otherwise permanent injury to the grass is likely to occur where the dust is applied at an excessive rate. For this reason it is advisable to use some type of duster which blows this chemical on the foliage. It may also be applied by shaking the dust through a cheesecloth. One may also punch a number of fine holes in the lid of a convenient sized can and shake it on. It is well, however, to experiment with the application of this herbicide on a small area and observe the results before risking this treatment on the entire lawn. Cyanamid should be applied when the foliage is wet with dew or by sprinkling.

This herbicide is quite caustic and may cause injury to the skin in applying, but the burning can be prevented by covering the hands with a thin film of oil before handling the dust.

Cyanamid is a fertilizer as well as a herbicide. It checks growth by burning the tops, but later it stimulates the growth of grass and enables it to compete more effectively with weeds.

It is well, therefore, to repeat this treatment a number of times. Early spring and early fall are suitable times for its application, although good results may be obtained if applied any time during the growing season.

Dandelions and plantain are more effectively controlled by spraying with longtime burning oil at the rate of 5 gallons per 1,000 square feet of lawn. Best results are secured from this treatment when the oil is applied in cool weather.

All herbicidal treatments to control weeds in lawns scorch the grass to some extent. This scorched appearance remains usually for about ten days. After that period the grass assumes its normal colour except where excessive amounts of the herbicide have been applied.

No. 300 -- Sun. July 27, 1941 -- Air Cadet League of Canada

Rapid progress has been made in the development of an administrative system for the Air Cadets of Canada, it is reported at the Air Cadet League's national headquarters in Ottawa. Launched June 2, the new organization is assisting civilian committees in all parts of Canada to form local air cadet units through which boys 12 to 18 may take preliminary training in aviation. Intensive air cadet training is expected to be under way in all provinces with the opening of schools in September.

"Air cadet units are now being organized in British Columbia, Alberta, Saskatchewan, Manitoba, Ontario and Quebec," said Arthur L. Melling, member of the national executive and Honorary Secretary-Treasurer. "Units in the other provinces will be formed soon. R.C.A.F. officers have been loaned to the League's National Headquarters and to each of the six air force commands to assist with air cadet organization and training".

Air cadet officials are now working on a training manual which will be the textbook for the first year and a half of the Air Cadets' basic course. Instructional work in the manual will require 216 hours of study. Lessons will be classified under these headings: administration, aero engines, aircraft recognition, airframes, airmanship, armament, drill, first aid, knots and splices, maps and map reading, mathematics, model building, physical training, signals, and theory of flight.

To form an air cadet unit in any locality, a local adult committee must be formed with adults to act as officers and 50 or more boys from 15 to 18. Applications should be forwarded on prescribed forms through the Provincial Committee concerned to the Honorary Secretary, 122 Wellington Street, Ottawa, Ont. No boys are enrolled as Air Cadets at National Headquarters, but only through units in their own districts. If none has been formed they should interest other boys and adults in the air cadet movement and get a unit started.

Mr. Melling stressed that the Air Cadet League was formed because of the continued demand of Canadian boys since the outbreak of war for elementary aviation training. It was given authority by C.G. Power, Minister of National Defence For Air, to assist in the establishment of air cadet training units in Canada, he said, and it has a parity of status with cadet organizations of the other services.

No. 301 --- Mon. July 28, 1941 --- Training for Defence

Formal Order to give effect to the decision that men called up for four months' training under the National Resources Mobilization Act be retained in the Canadian Army for service within Canada has been announced. As a general rule men in training centres east of Sault Ste. Marie will be posted to units in the Atlantic Command, and those in centres west of that point will be posted to units in the Pacific Command.

Men now in the training centres completing their four months' training will have an opportunity to apply for postponement of their service to one of the National War Services Boards, who in most cases will proceed to the Training Centres to hear applications. For postponement it is necessary for those who apply to show facts and circumstances that will enable the Boards to determine the merits of the cases.

The grounds on which the Boards are empowered to recommend leave of absence without pay are similar to those on which the Board have acted in granting postponement of training. In cases where postponement is granted the man will report for duty on expiration of his leave. Those who are not granted postponement will commence their service as soon as their training period expires, but at the end of six months' service, which will include their initial four months' training, they may be granted two weeks furlough on the same basis as enlisted men in their Active Service Force.

Men called up for service this month and hereafter under the four months' training plan will not have the right to apply for postponement of service since they will have had notice of the intention to retain them for service on the completion of their training, and will have had the opportunity to apply to the Board for postponement before their training began.

About 4,000 men have been called for compulsory training beginning July 31. Of these 1,300 are men who have already had 30 days' training, and will be required to undergo another three months on completion of which they will be retained for service in Canada or its territorial waters as will the remaining 2,700 called for the full four months' training. Application for postponement must be made to the Divisional Registrar within eight days of the date the notice was issued. On being called out for additional training and subsequent service, the thirty-day men will be entitled to claim Dependents' Allowances on the same basis as men now undergoing four months' training.

No. 302 -- Tues. July 29, 1941 -- Appeal To The Housewife

The women of Canada are being afforded an opportunity to emulate their cousins in Great Britain, the United States, Australia and New Zealand, by giving worn out and broken utensils and otherwise useless aluminum articles to help the Canadian Red Cross Society. The National War Services Department is launching a Dominion-wide drive for this material, needed in the manufacture of airplanes and other war equipment.

Concentration points will be compounds in the parks and school grounds of every town and city. Citizens will be asked to bring material to these compounds. All worn out, broken or useless aluminum articles should be cleared out of each home and brought to the community pile. The National War Services Department points out that useful articles, which would have to be replaced, should not be given. Appropriate articles would be leaky pots, pans which burn only in one spot, old shoe trees, broken shakers, golf clubs that will not be used again, and broken parts of washing machines and sweepers. The Department asks for all aluminum articles which are not required in home or shop.

The material collected in this campaign will be rushed to Canadian factories engaged in manufacturing airplanes and other essential articles of war. 28,000 lb. of this aluminum will build a modern bomber plane and 4,000 lb. a modern fighter plane.

Every Canadian woman is anxious to do her utmost to assist in the successful prosecution of the war. Here is an opportunity for her to make a most valuable contribution to the war effort. Those old pots and pans, which she can so easily collect and bring to the community pile, will make bombers and fighters. Those very bombers and fighters may be the deciding factor in winning the war.

The National War Services Department will lose no time in making the material collected available to Canadian manufacturers, and the money collected from the sale will be turned into the wonderful work which the Red Cross Society is doing for Canadian sailors, soldiers and airmen. Thus the giving of useless aluminum ware in this campaign serves the double purpose of providing much needed material for war vehicles and of assisting one of the noblest of the war charities.

No. 303 -- Wed. July 30, 1941 -- Autumn Planting

On the Canadian prairies spring often comes in with an abrupt burst of hot days, quickly opening leaves, and springing blossom shoots. Such conditions permit only a few days for favourable transplanting of woody plants. There are a number of good arguments for transplanting many things in late summer and autumn.

Nurserymen have a full stock in the autumn and orders placed in summer, meeting a complete choice of goods, seldom experience disappointing substitutions. Nurserymen and gardeners both have more time to dig, pack, and ship in autumn than in the rush season of spring. Spring blooming herbaceous perennials move best in autumn. Many plants moved in early September will make a goodly number of new roots and re-establish well before freezeup, thus gaining a big advantage over similar stock planted in April and May. Two examples are spruce and raspberries. At the Morden Experimental Station spruce moved after a soil-wetting rain about the middle of August, have tended to gain a complete stand. The terminal buds are made up in

July and the new growth is hardened by early August. Thereafter, as long as soil temperatures are moderately high, vigorous root growth may be expected. The spruce in its new position has about two months to employ in developing strong roots in its new soil. Raspberries moved in early September have a month for root growth.

Of course, it is important that all transplanting be done in soil that is definitely moist, but not soggy wet. It is well to water generously after transplanting. Transplants are left unpruned until spring, when they are headed back or thinned in the accepted manner for the subject involved. Before freezeup a furrow of soil is thrown up to mound the new stock on each side. This is cultivated down in April. Any large stock is comfortably, but firmly, held in place by burlap hammocks nailed to three stakes.

Experience shows the following practices to be good policy at Morden. Iris and evergreen conifers are moved in August; tulips, lilies, peonies, raspberries, bush fruits, and spring blooming perennials, including rock garden plants, transplant to advantage in early September. Lilacs, roses, larch, and general stock are well planted the last half of September. If green foliage adheres, it is plucked off.

Plants that do not move with satisfaction in autumn in our northern prairies appear to be strawberries, autumn blooming perennials, grapes, and dwarf asiatic elm. Other than these and evergreen conifers, nursery stock may be secured any time in autumn and heeled in a sloping trench that has been well watered. This gives the gardener assurance of possessing his material and allows him to set it out in mid-April when moist soil and moderate temperatures favour a prompt establishment.

No. 304 -- Thurs. July 31, 1941 -- Russian Rivers

Canadians have been showing interest in Russian waterways. North and South, barring the German invader, run the great rivers of Russia. Always historically important, they today assume great strategical significance. The Red Army is fighting from river to river. However the fortunes of war may sway, it will continue to do - on the Dvina, on the Dniester and on the Dnieper.

The great land mass of Russia is as full of rivers as a leaf is full of veins. Nearly all have one feature in common - they flow from north to south or from south to north. This simple geographical feature may spell Hitler's ruin.

One of the most stubbornly defended rivers will be the Dniester. For 100 miles it is the boundary between the Ukraine and what was formerly Rumanian Bessarabia. The Dniester is very winding, and it flows very fast. Its average width is about 100 yards, but in some places it stretches for nearly a quarter of a mile from bank to bank. There are rapids about 150 miles from its mouth.

In short, the Dniester is a hard river for a Panzer division to cross, even allowing for the Nazis' incredible skill in spanning water under fire. But the Dnieper is far harder. The Dnieper is a mighty waterway, ranking in Europe only after the Volga and the Danube. Its fame goes back into ancient history. It rises in the swamps of Smolensk province, hard by the sources of the Dvina and the Volga, and travels more than 1,400 miles before it reaches the sea. It flows through low, undulating lands, fertile plains and rocky steppes. Its banks, in the main, are high, particularly on the eastern side. At Smolensk, well over 1,000 miles from its mouth, it is 150 yards wide. Where the Pripet joins it from the famous marshes it is a quarter of a mile wide. In some places in the Dnepropetrovsk district it is one and a quarter miles wide. Not a bad tank trap! Also, it flows at a tremendous speed in parts.

All these rivers are mere streams compared with the Volga. That will be a crossing for the Nazis. Two thousand three hundred miles it flows from source to sea, and it is rarely less than a quarter of a mile wide. It is no myth that the Volga boatmen sing their song there. May they go on singing it in peace!