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DEPARTMENT OF
TRADE AND COMMERCE



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A FACT A DAY ABOUT CANADA
FROM THE
DOMINION BUREAU OF STATISTICS
OCTOBER 1940
SEVENTH SERIES

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Contents

- | | |
|-------------------------------------|---------------------------------------|
| 1. Producer Gas. | 17. Civil Aviation Gains. |
| 2. Metallic Contamination of Foods. | 18. Canada's Well Stocked Larder. |
| 3. Forest Fire Losses. | 19. Race Track Betting. |
| 4. Newfoundland's Defences. | 20. Heart Throbs and Brain Waves - 1. |
| 5. Wintering the Pullets. | 21. Heart Throbs and Brain Waves - 2. |
| 6. An Alberta Saga. | 22. Household Storage. |
| 7. Sending Apples to the Soldiers. | 23. Houseplants. |
| 8. Hollywood of Canada. | 24. Prepare Lawn for Winter. |
| 9. Heating with Wood. | 25. Control of Hop-Vine Borer. |
| 10. Fisheries' Worth. | 26. Less Beef Being Eaten. |
| 11. Order of the Mop and Broom. | 27. Ukraine in Poland. |
| 12. Platinum. | 28. Building Canadian Warships. |
| 13. Waterproofing in Canada. | 29. R.C.A.F. Engine Mechanics. |
| 14. Set the Mouse Trap. | 30. Control Marten Trapping. |
| 15. Milk. | 31. Hallowe'en. |
| 16. Canadian Clay. | |

James Muir,

Editor.

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from the

Dominion Bureau of Statistics

No. 1. Tues, Oct. 1, 1940 — Producer Gas.

With this issue of the Fact a Day a new series begins. It is the seventh series, so that this little service publication is well past the age when fond parents think it is time for their children to start school. We have learnt a few things in these past six years, particularly what our readers want to know about Canada and its people, their relationship with the greater world outside.

Probably it is because we have grown up as a nation so fast in the last few years, especially during the past year, that a greater interest in our dealings with other countries has been observed. Readers seem to like little talks about other countries, and how many of the people of these countries have helped in building up this Dominion. So you may expect in the course of the next twelve months to read more about these.

Meanwhile we have been endeavouring to show how the people of Canada, engaged in varied activities, can be of service in winning the war. Today let us talk about Producer Gas.

With imports of crude oil, fuel oil and gasoline in 1939 amounting to more than \$48,000,000, Canadians now have an opportunity to help conserve foreign exchange for war purposes by turning wherever practicable to the use of producer-gas from charcoal or wood as fuel for internal combustion engines. There are of course some difficulties to overcome. Special equipment is required which is bulky and costs from \$350 up to install. More space is required to carry the fuel and there is some reduction in engine power.

On the other hand there are definite advantages. Producer-gas costs the consumer much less than gasoline. The Forest Products Laboratories of the Department of Mines and Resources reports that on the basis of gasoline at 22 cents per gallon, charcoal at \$20 per ton and air-dry hardwood at \$7 per cord, the cost of gasoline fuel for a vehicle is about double the cost of producer-gas from charcoal and nearly five times the cost of producer-gas from wood.

Producer-gas is being used successfully in many countries as a substitute for gasoline for operating internal combustion engines, especially in trucks, buses and boats. In England and Australia efforts are being made to extend to the utmost the use of producer-gas from charcoal. Since the conclusion of the world war of 1914-18 other countries have devoted a great deal of attention to developing substitutes for gasoline as they realize the difficulty of obtaining adequate supplies in time of war, and some of them have gone so far as to promote the use of home-made products even at an economic disadvantage.

Canada has no difficulty in obtaining adequate supplies of liquid fuels, but most of her requirements are derived from crude oil imported from the United States. The wider use of producer-gas as a substitute for gasoline would not only help conserve foreign exchange, but would also provide another outlet for forest products.

No. 2. Wed. Oct. 2, 1940 -- Metallic Contamination of Foods.

With the great increase in the domestic canning of foods to help carry us through the trying days of war, a word or two about metallic contamination may be helpful.

Traces of metals occur naturally in many foods, and biochemical research indicates that at least nine, sodium, potassium, calcium, magnesium, iron, copper, manganese, zinc and cobalt are necessary for proper nutrition. On the other hand, metallic contamination of foods may cause spoilage from impairment of flavour or colour, and some metals, even in minute amounts, are definitely toxic.

Contamination usually occurs by contact, either in the process of manufacture or with the container or wrapper of the final product. Insecticide sprays may also be responsible. Lead and arsenic are usually considered the most dangerous metals. Lead arsenate, however, is a valuable insecticide and has received wide application on the apple crop. Extensive investigations have been undertaken in the Government laboratories to insure that spraying practices will leave residues within the tolerance permitted by the health regulations of the Department of Health. Lead is readily picked up by contact, and lead contamination of processed foods must be avoided by the elimination of lead or its alloys, such asterne plate, from all parts of the equipment, which may come in contact with food.

Other metals which have occurred in foods with harmful results are antimony, cadmium, zinc, and copper. Antimony oxide has been used in place of tin oxide to render enamelware opaque, and there is definite danger in keeping acid foods in such vessels. Cadmium poisoning has occurred from contact of acid foods with cadmium plate. Zinc is less toxic and comparatively large amounts can be taken without serious results. This metal usually occurs from the use of galvanized iron equipment and care should be exercised in the use of this material for processing or storing food. Copper has often been found as a contaminant of food products. At one time it was a common practice to use copper salts to colour green vegetables, especially peas. Because of possible injury to health, the use of copper compounds in colouring fruit and vegetable products is prohibited. Copper is readily picked up by acid foods from contact in processing, especially if the surface is tarnished. In view of recent regulations limiting the amount of copper permitted in tomato products imported into Great Britain, a survey of the copper content of a number of Canadian tomato products was recently completed. Results showed that the copper content seldom exceeded 50 parts per million on the dry basis. Research has shown that traces of copper are responsible for "tallowy" flavour in dairy products, so that copper contamination of milk and butter must be carefully avoided.

Contact of foods with iron, tin and aluminum has not been known to cause injury to health, and when present in excessive amounts or under certain conditions, these metals may cause "off" flavour or discoloration.

A balanced diet will supply adequate amounts of all metals required for the proper functioning of the human system. The inclusion of metals in foods from extraneous sources should be reduced to a minimum. Examination of products of the Packing Houses and Canneries and of materials used in their preparation for metallic impurities is carried out by the Scientists of the Dominion Department of Agriculture. This service maintains quality and insures that the various products are fit for human consumption.

No. 3. Thurs. Oct. 3, 1940 -- Forest Fire Losses.

Although the danger season is not yet over, indications are that Canada's forest fire losses for 1940 will probably be about average, resulting in direct losses of between four and five million dollars, according to the Dominion Forest Service. These direct losses only represent a small part of the picture as they do not take into account loss of soil fertility, seed supply for future crops, tourist and watershed protection values, and impoverishment of wild life.

Canada has made marked progress in the last twenty years in forest fire research, and modern methods of prevention and detection together with effective fire-fighting equipment now prevent many forest fires from reaching destructive proportions. Statistics show there has been a general trend increase of about ten per cent in the annual number of fires, but they also show that over this period the size of the average fire has been reduced by one-half. Increased travel to forested regions in recent years, made possible by motor cars, has been largely responsible for the greater number of fires, and the reduction in the size of the fires has been brought about by the steadily increasing efficiency of the protective agencies.

With forest protection authorities now operating on greatly reduced budgets, their efforts have to be largely restricted to the safeguarding of property and valuable timber stands, and any improvement in the general situation must depend in large measure on the co-operation of the general public in preventing forest fires. Records show that human agencies are responsible for about 85 per cent of the fires. Neglected campfires cause about 20 per cent of forest fires, careless smokers 15 per cent, settlers' clearing fires getting out of control 17 per cent, and incendiary fires amount to about 9 per cent. Lightning causes about 15 per cent of Canada's forest fires.

No. 4. Fri. Oct. 4, 1940 -- Newfoundland's Defences.

All of Canada, indeed all of our Commonwealth of Nations, has been thrilled by the manner in which Newfoundland, the oldest colony, has risen to the support of Great Britain in the defence of liberty. Here is something very interesting about the defences of the Island.

Newfoundland's defence preparations are being accelerated by the existence of surveys laid down by Canadian Government geodetic engineers. Under a co-operative agreement between the Dominion Government and the Commission Government of Newfoundland, a geodetic survey of the island colony was undertaken in 1935, the Geodetic Service of the Dominion Government supplying the technical officers and equipment and publishing the geodetic data, and the Commission Government bearing all field expenses. Undertaken as a basic requirement in connection with the development of the natural resources of the island colony, these surveys have assumed increased importance in view of recent defence preparations.

An interesting feature, before the work was commenced, was the extension of the Canadian triangulation net to the Newfoundland Coast by long sights across Cabot Strait from Cape Breton. The average sight distance was 92 miles and observations on light signals were made at night. Geographical positions have been accurately established through the geodetic survey work and, with altitudes similarly secured, have been invaluable in the mapping of various districts containing natural resources.

In the Hunter River watershed, triangulation data have been employed as a frame-

work for plotting aerial photography. In the Botwood district mapping for geological investigations has been based on positions located through triangulation. The large airport at Gander Lake and the seaplane base at Botwood have been similarly located. Hydrographic operations on the west coast of Newfoundland have been facilitated by triangulation data secured. Such data have been invaluable in the preparation of charts now being made of Newfoundland for defence purposes.

The triangulation net through Newfoundland is also an important link in the triangulation system around the Gulf of St. Lawrence which is necessary in fixing accurately positions on the north shore of the gulf, where accurate mapping information has not been available. Triangulation data secured will also eventually be the basis of the demarcation and survey of the Canada-Newfoundland boundary in Labrador.

Field operations in the 1940 season were restricted because of war conditions, but included the extension of the main net towards the Strait of Belle Isle, at which point a tie will be made with the eventual Canadian network along the north shore of the Gulf of St. Lawrence. For the past six seasons the work has proceeded satisfactorily and despite some delays, caused by poor observing conditions, the Newfoundland triangulation net is now nearing completion.

No. 5. Sat. Oct. 5, 1940 -- Wintering the Pullets.

This is the day children are free of school and many of them are busy helping their fathers and mothers to do a great old clean-up, especially in the poultry run. Let us talk for a moment about winter laying, for eggs are going up in price and this can be made a very profitable winter for a lot of country folk. Some countries are short of eggs these days. Fortunately we are not.

Early hatched pullets are already beginning to lay, and before many eggs are laid the flock should be placed in winter quarters. If housing is delayed long after the pullets are well developed, and laying has been in progress, sometimes the change in management may injure production.

The house should be thoroughly cleaned and repaired before the pullets are housed. At the Dominion Experimental Station at Fredericton, N.B., all old stock is removed from the house about two weeks before the arrival of the pullets. The old flock can be culled and sold at this time and quarters can usually be found for the remainder of the birds. All nests, roosts and other movable equipment are taken out to facilitate cleaning with the shovel, scraper and broom. The house and equipment are then scrubbed thoroughly with a hot lye solution, using about one teaspoonful of lye to a gallon of water. They are then sprayed with a coal tar disinfectant, used at about double the strength recommended by the manufacturer for ordinary disinfecting.

A suitable ventilation system is important during the fall and winter months, as pullets will not usually give satisfactory results in a cold draughty house. At the Fredericton Experimental Station, Fredericton, N.B., a glass and cotton front house with a straw loft was remodelled by insulating the walls and ceiling with shavings and by replacing the cotton fronts with sliding glass frames. This house is in an exposed position. It had never given satisfactory results but after it was remodelled, production was over 60 per cent for the entire winter.

A postcard to the Dominion Experimental station at Fredericton will bring some very valuable hints.

No. 6. Sun. Oct. 6, 1940 -- An Alberta Saga.

For the second year in succession, farmers from the Rolling Hills District of Alberta have won first prize at Brooks Fair, Alberta, for wheat, oats, and barley. At first sight this bald statement would appear to be of local interest only, but behind it lies a saga of the West--a story of heroism and final triumph over years of adversity. These farmers come from the irrigated tract south of Lake Newell recently opened under the Prairie Farm Rehabilitation scheme, but before their removal under the Prairie Farm Rehabilitation Act, they were living on government relief as a result of the battle against the elements in trying to make a living on the arid lands of the drouth-stricken areas of Southern Saskatchewan.

Year after year they depended upon natural rainfall and year after year their hopes were blighted; they sank further and further into a morass of debt. Eventually under the Prairie Farm Rehabilitation Act, the Dominion government decided to turn their land into community pastures and to offer them a chance of re-establishing themselves on irrigated lands. They were dry-land farmers who knew nothing whatever of the technique of irrigation, but they had the promise of aid from the Prairie Farm Rehabilitation officials. Moving into the Rolling Hills District of Alberta, they applied themselves bravely to a new kind of farming. With the help of the officials, they installed pumps, dug ditches, and spent long hours over their shovels in a finely conceived and well executed plan.

The first year, they planted mostly cereal crops. The harvest was good and the settlers were so pleased with the results that they determined to submit their entries at the Brooks Fair. Competing against men who had managed irrigated lands for years, the new settlers carried off the honours in wheat, oats, and flax. That was in 1939. This year they again competed and again carried off the honours in wheat, barley and oats. The Prairie Farm Rehabilitation Act officials at Regina regard this as a remarkable achievement, inasmuch as inexperienced irrigators commonly have many failures. The percentage of failures at Rolling Hills under the P.F.R.A. is negligible.

No. 7. Mon. Oct. 7, 1940 -- Sending Apples to the Soldiers.

Before shipment of apples to the United Kingdom can be made to members of the C.A.S.F., Canadians serving in the British or Allied Forces or to civilians, a certificate must be obtained from a Dominion Fruit Inspector certifying that the apples comply with the requirements of the Destructive Insect and Pest Act. The Department of Trade and Commerce emphasizes that the greatest care must be taken in conforming to the regulations governing package weights and method of shipment.

Gifts of apples may be sent to civilians in the United Kingdom by freight or express through trade channels only. Such packages must not exceed 15 pounds weight, must be individually addressed before leaving Canada, and forwarded to an authorized importer in the United Kingdom for distribution by parcel post. In addition individual parcels not exceeding 20 pounds weight may be sent direct by parcel post from Canada.

There are no weight limitations on packages of apples sent to members of the C.A.S.F. or to Canadians serving in other British or allied forces when forwarded by express or freight. When sent by parcel post from Canada, however, the parcels must not exceed 20 pounds weight. Gifts forwarded to individual members of the C.A.S.F. by freight or express must be addressed to the consignee in care of the Officer Commanding the unit and shipped through a forwarding agent to enable clearance through customs. Carlots of individually addressed packages should be consigned to the Senior

Officer, Auxiliary Services, C.M.H.Q., Cockspur St., London. Similar gifts to Canadians serving in British or allied forces should carry the name, number, rank of the consignee, and the name of the unit and be addressed in care of the Canadian Auxiliary Services, 6 Dilke St., Chelsea, London, S.W.3.

The Dominion Department of Agriculture points out that while there is no regulation against the sending of apples from Canada by parcel post to the United Kingdom up to a maximum weight of 20 pounds, except that they require inspection by a Dominion Government inspector, the sending of such parcels is not considered practical and therefore is not recommended. The reason for this recommendation, states the Department, is that due to the fact apples are a perishable product, they are not likely to arrive in good condition, because when sent by parcel post they do not go forward under favorable shipping conditions.

No. 8. Tues. Oct. 8, 1940 -- Hollywood of Canada.

Most Canadians think of the movie industry in terms of Hollywood. But any Canadian who wishes to step behind the screen and peer into the mysteries of film production may do so right in his own country. For Canada has a permanent company which produces pictures year after year.

Little more than twenty years old, the Associated Screen News, with its headquarters in Montreal, has become the centre of Canada's movie industry. As its name implies, the company started as a news-gathering organization. From this small beginning it has developed to a producer of theatrical and commercial pictures and is Canada's foremost exponent of the documentary film technique. Associated Screen Pictures are shown all over the United States, Britain and the Dominions and in as far-away places as Burma, Siam, Sarawak, China and Borneo.

Nearly half a million dollars is invested in the studios and laboratories of this all-Canadian company. In it are to be found most of the departments of a Hollywood organization.

An Art Department specializes in Main and Credit titles. Animation is handled by artists trained in its difficult technique. A Scenario Department provides original ideas, detailed scenarios and "shooting" continuities. In a Sound Studio, equipped for the finest reproduction, sound is recorded under the direction of skilled engineers. The Editing Rooms are a curious mixture of noise and silence as sound is matched or individual scenes put into proper sequence.

Most outsiders are fascinated by the Production Studios. There, in an ordered profusion of paraphernalia, make-believe becomes reality on celluloid. There, studio cameras and sound-booths share space with batteries of lights, with exterior and interior sets and many varied properties, often including the kitchen stove. Entirely apart from production activities are the Laboratories. Here, negative, sent from American and British producing companies, is developed and printed for distribution throughout Canada. More than eighty percent of the film shown in the Dominion has been processed in this laboratory.

So, from a small start back in the nineteen-twenties, this Canadian movie company has grown into a thriving industry, into the "Hollywood" of Canada.

No. 9. Wed. Oct. 9, 1940 --- Heating with Wood.

Canadian householders can help to conserve foreign exchange for war purchases by the increased use of wood for domestic heating purposes and at the same time reduce their annual expenditure for fuel.

Each year for domestic consumption in Canada, quite apart from industrial uses, about 3,400,000 tons of anthracite coal and about 1,800,000 tons of bituminous coal are imported. In addition, homes equipped with oil burners necessitate the importation of a considerable quantity of crude oil from which fuel oil is derived. Under present conditions, when every effort is being expended to conserve foreign exchange, it is important that Canada's outlay for imported fuels be reduced by drawing on her abundant resources in fuel from low grade wood, sawmill waste, sawdust and other such material to as great an extent as possible.

At present Canada uses approximately 10 million cords of wood a year for domestic fuel. This exceeds the quantity cut for either sawlogs or pulpwood, and is equal in heat value to about 6,600,000 tons of anthracite. Effective heat obtained from 1½ cords of good hardwood is equivalent to the heat obtained from one ton of anthracite coal.

While burning wood may entail more work and inconvenience in stoking than some other fuels, in most cases a substantial saving can be made by its use. Important advances have been made in recent years in the manufacture of stoves and furnaces for burning wood, and in the development of sawdust burners. As a measure of national economy, increased reliance on Canadian fuel wood resources is important, and places within the reach of every householder a means of furthering the war effort.

No. 10. Thurs. Oct. 10, 1940 --- Fisheries' Worth.

Canada's fisheries production in 1939 had a total value of \$40,000,000, of which the sea fisheries contributed 85 per cent, and the inland fisheries, 15 per cent. Compared with 1938 the value of the sea fisheries showed a substantial increase, while the inland fisheries decreased. These total figures represent the value of the fish as marketed, whether sold for consumption fresh, canned, smoked, or dried.

The salmon fishery was by far the most important, its value in 1939 amounting to 33 per cent of the total. Following, each with a value of almost four million dollars, were the lobster and herring, while cod, with slightly more than three million dollars, was fourth on the list of the chief commercial fish.

By reason of her great salmon fishery, British Columbia ranked first among the provinces in order of marketed value of product. Nova Scotia held second place, with the cod, lobster and haddock fisheries accounting for more than half of the marketed value of the Nova Scotia production. New Brunswick was in third place, with the output of the sardine and lobster fisheries representing 65 per cent of the total value of the fisheries production of the province.

Fish marketed for consumption fresh, including fresh fillets, had a total value of about \$17,000,000 in 1939. The canned production was valued at over \$15,000,000, of which canned salmon accounted for over \$10,000,000. The bulk of the salmon is marketed canned, and for this product the principal markets have been found abroad, with countries of the British Empire taking the major part.

No. 11. Fri. Oct. 11, 1940 - Order of the Mop and Broom.

In this restless ever changing world of ours, it is heartening to discover that some old customs of our grandparents still survive and are standing the rigid test of time. One of these is "sweeping".

Ah, yes, there are several kinds of sweeping in vogue today. We have armies sweeping the country, brushing human life before them as though it was rubbish; we have mine sweeping abroad in the seven seas; we even have sweeping "hair do's". But these are all products of modern civilization.

Going back to yesteryears, when life was simple and the world was not a bedlam of intricate mechanisms, we find that one of the most unimposing and indispensable articles in the home was an ordinary broom. It is still unimposing and still indispensable.

What is more, if figures have not lost their reputation for veracity, new brooms still sweep clean. Statistics reveal the fact that Canadian housewives are as devoted as ever to the ancient order of the mop and broom. Last year retailers sold over three million corn brooms and about one and one half million mops of all kinds. This is entirely exclusive of whisks and brushes. The total selling value of all the products of this industry devoted to the needs of Canadian home-makers amounted to almost four and one half million dollars for the year 1939.

No. 12. Sat. Oct. 12, 1940 - Platinum.

Canada produced 284,304 ounces of platinum and allied metals in 1939, more than half the estimated world output of 500,000 ounces for the year. All but a small part of the entire Canadian output of platinum metals comes from the nickel-copper ores of the Sudbury area in Ontario. A few ounces are also obtained from the black sands of British Columbia and small quantities are recovered as an impure residue in the refining of gold at Trail, B.C. Since 1934 Canada has been the world's leading producer of platinum metals, displacing Russia, which previously held first place. Other principal producers are Russia, South America (Colombia), and South Africa.

During the past fifteen years the price of platinum has fallen considerably, decreasing from about six times the price of gold to approximately the same value as gold. This reduction in price together with research on the possibilities of platinum as an industrial metal has brought about a greater use and increased demand.

A considerable market for platinum and platinum metals has been developed in the armament industries, where it is used for instruments, for reflectors and lamps for searchlights, and for contact points in airplane engines.

In the electrical industry it is used extensively for contact points, power switches, thermostats, resistors for high temperatures, electric control apparatus and clocks, while the chemical industries use platinum for laboratory equipment, for anodes, and as a catalyst in the production of sulphuric, acetic and nitric acids.

A new development occurred during 1939 in the rayon industry, where platinum-rhodium spinnerets have taken the place of the older platinum-gold spinnerets. The use of platinum continues to increase in the glass fibre industry, where it is employed for extrusion dies and feeder apparatus. The conservation of gold by many countries is assisting the demand for platinum metals, particularly palladium, and

the use of palladium as a substitute for gold alloys for dental restorations, pen points and jewellery articles is making substantial headway.

No. 13. Sun. Oct. 13, 1940 -- Waterproofing in Canada.

Contrary to popular opinion, the idea of waterproofing is not new. As far back as the early 1600's a patent was applied for, covering an invention that would render fabrics water resistant. Our modern mackintosh came into being in 1823 when Geo. Mackintosh was granted a patent and set up a plant in Glasgow for the manufacture of waterproofs. Since that time, the industry has grown into sizeable proportions, and great strides have been made in the last few decades, until today the waterproofing business gives promise of becoming one of Canada's major manufacturing industries.

Volumes could be written concerning this interesting field of endeavor, without exhausting the wealth of information obtainable, but much of it is so technical and complicated that only those skilled in research and chemistry know what it is all about. In other words, there is more to a waterproof than meets the eye, or the rain either, for that matter.

Nature has endowed most textile fibres with a curious water-resistant quality that is, of necessity, destroyed during the process of manufacture in order that an even and stable dye may be produced. As a rule, in order to re-instate this water-repellent quality, one of two methods is used.

First a protective film may be spread over the whole of the fabric, which renders it impervious to air, a quality condemned as unhygienic. Secondly, each individual fibre may be covered with some soluble material such as wax or soap or metallic oxide, in which case the fabric remains porous and air can circulate freely. But if the air can get in so can water, should the pressure be great enough. Therefore, fabrics treated in this manner cannot be said to be entirely waterproof.

Materials such as rubber, tars, asphalt and other bituminous materials have been used to a great extent in waterproofing cottons, such as rain coat fabrics and tarpaulins. Synthetic resins are also used in waterproofing various materials. Oiled silks were known in the Orient long before they made their appearance on the Canadian market, and probably received their name from the tung oils used in their production. Wax has been in use for many years and is applied either as a solution, rubbed in as a solid or powder, or applied in the form of an emulsion. In each case, while rendering the fabric water-repellent, the process does not make it resistant to washing or dry cleaning.

A short time ago a product for giving fabrics a waterproof finish was brought to light. It is called Velan and is a complex organic chemical. This substance eliminates all damage previously wrought by washing and dry cleaning and gives the fabric a fine soft finish. In treating fabrics with Velan, each individual fibre is covered with a protective coating and by a baking process the material is made entirely water-resistant. In this way the finest velvets, silks and even hosiery can be made impervious to moisture and stains.

There is little doubt but that the waterproofing industry has come to stay. Its great advancement in the last few decades has opened up new fields for the chemical and textile industries. Those engaged in research along this line may have thought the general public was ungrateful and inconsiderate of their efforts. While the man on the street was loudly and enthusiastically acclaiming the progress made in the more spectacular fields of automobiles and aeroplanes, he didn't notice the improvements in

common every-day things like raincoats, umbrellas, shower curtains, and washable wall-paper. He didn't stop to think of what the sailor and fisherman would do without a sou'wester, or what he himself would do without galoshes. Until he paused and looked around, he didn't realize to what extent he was indebted to the waterproofing industry, for his comfort, convenience and well being.

In Canada there are twelve establishments whose output consists largely of water-proofed clothing. In 1939 the gross value of production was over one million dollars. At the present time more waterproofing patents are being granted than at any time during the past decade or two. With new and valuable proofing being discovered, it is not being presumptuous to say that we can expect big things from this industry as time passes.

No. 14. Mon. Oct. 14, 1940 -- Set the Mousetrap.

At this season of the year, mice, in seeking suitable winter quarters, find their way into dwellings, sometimes in quite appreciable numbers. This is particularly noticeable in rural districts but also occurs to some extent in suburban areas and in city dwellings.

The common house mouse is the chief offender, but field mice will readily establish themselves in a very short time. Both species in their quest for more comfortable quarters with the approach of winter are driven indoors. Mice are very prolific and, if not checked, soon become a nuisance. The house mouse begins to breed when three months old and has litters at intervals of eight or ten weeks throughout the year.

Unlike many other animals, mice are not particularly wary of baits and traps and are therefore fairly easily controlled. While poisoned baits are effective, they are not recommended for use in dwellings, traps being satisfactory, safer, and more sanitary, as the bodies of the mice may be disposed where they will not create an offensive odour. The ordinary guillotine or "snap" trap is the most satisfactory. Cheese, fried bacon, raw meat, oatmeal, and fruit are suitable baits for these traps. A good combination bait is a mixture of peanut butter, rolled oats, and chopped raisins. A drop or two of aniseed oil may be added. If the mice are numerous, several traps should be used, placing them where the mice are known to frequent.

No. 15. Tues. Oct. 15, 1940 -- Milk.

One food that is in universal demand, year in and year out, is milk. In any language it spells nourishment. Included in all diets, whether the purpose be to reduce, build up or merely to maintain a normal healthful standard, milk is the only substance which nature has created solely for food, and is practically indispensable. From a glance at statistics, the latest available being those for 1938, we see that Canadians consume on the average of .82 pints of milk per day per person.

What is milk that old and young alike thrive on it? Well, physically it is a whitish yellowish fluid secreted by the mammary glands of female mammals for the nourishment of their young. Chemically, it is a liquid composed basically of water, protein, fat and other heat and energy producing materials. Milk varies in degrees of concentration, depending upon the type of mammal. However, all milk contains minerals, vitamins and sugars and these essential contents form the foundation of modern dietetics.

Cows, of course, are the most important mammals as far as the commercial production of milk is concerned, and they play a leading part in man's inherent struggle for existence. For over 10,000 years, and perhaps for far longer, cows have been raised for the production of milk and today, through years of selection and breeding, they form the basis of one of the Dominion of Canada's all important industries, one upon which countless human lives depend.

Tremendous strides have been made in dairying in the last few decades. Science and chemistry have invaded the bovine realm and brought improvements in sanitation systems and housing conditions, with the resulting increase in quantity and quality of milk. Modern refrigeration has minimized the dangers of contamination. Strict regulations regarding tested cattle have lessened the old fears of infection and disease in milk. All these factors combine to make dairying a primary industry in a rising young country where opportunities for agricultural pursuits are infinitely great.

Since the first milk production estimate, contained in the Census Report of 1911, the farm output has increased from seven billion pounds to more than double. Not only has the output of milk itself been doubled but likewise that of its various by-products, including butter, concentrated milk and ice cream. Up until the outbreak of war, cheese alone had failed to keep pace with the rest of the products of the dairy industry. However, since January of the current year the production has increased from 115 million pounds to 132 million, a gain of 15 per cent over the output during the same period last year. This has boosted the cheese industry considerably for there is now an almost unlimited market for its consumption.

No. 16. Wed. Oct. 16, 1940 -- Canadian Clay.

Increased activity was noted in the Canadian clay industry during 1939, with production of domestic clays reported in every province except Prince Edward Island. Sales of domestic clay and clay products during the year had a gross value of \$5,151,236 as compared with \$4,536,084 in 1938. Canadian clays are manufactured into refractories, building brick, structural tile, floor tile, roofing tile, drain tile, sewer pipe, and pottery.

Common clays suitable for the production of building brick and tile are found in all the provinces of Canada. The greatest producing area of stoneware clays or semi-fireclays is in the vicinity of Eastend and Willows, Saskatchewan, but the manufacture of these clays into stoneware, sewer pipe, and pottery is centred at Medicine Hat, Alberta, owing to the availability of cheap natural gas fuel. Stoneware clays and moderately refractory fireclays occur near Shubenacadie and Musquodoboit, Nova Scotia, but apart from the use of some of the Musquodoboit clay in the production of pottery there has been no extensive exploitation of these clays for ceramic use. Stoneware clays, or low-grade fireclays, are also known to occur near Williams Lake and Chimney Creek Bridge in British Columbia; in the Cypress Hills of Alberta, and near Swan River, Manitoba, but as yet there has been little or no development of these deposits.

Fireclay refractories are manufactured from domestic clay at two large and a few small plants in Canada. At one plant, near Vancouver, a high grade, moderately plastic fireclay is obtained by underground mining from the clay beds in the Sumas Mountain, and is manufactured into firebrick and other refractory materials. Another plant at Claybank, Saskatchewan, uses the highly plastic, refractory clays recovered by selective mining from the white mud beds of southern Saskatchewan. Small quantities of the most refractory clay in the deposits near Shubenacadie are mined for refractory use and the Musquodoboit clay is utilized to some extent for stove linings.

China clay has been produced commercially in Canada only from the vicinity of St. Remi d'Amherst, Papineau county, Quebec. Important deposits of high-grade plastic white burning clays and buff-burning clays occur on the Mattagami, Abitibi, and Missinaibi Rivers in northern Ontario. Some of these may be classed as china clays, some as fireclays, and others as ball clays. These deposits have attracted considerable interest but have not as yet been developed commercially, owing to their distance from industrial centres. In British Columbia, along the Fraser River, about 25 miles above Prince George is an extensive deposit of high-grade clay, parts of which yield a grade of china clay comparing favourably with the best found on the North American continent. Ball clays of high bond strength occur in the white mud beds of southern Saskatchewan.

No. 17. Thurs. Oct. 17, 1940 --- Civil Aviation Gains.

Civil aviation in Canada continues to make great strides, the mileage flown by civil aircraft during the first three months of the current year totalling 2,474,662, of which 2,120,906 were revenue miles and 353,756, non-revenue miles. The total number of passengers carried was 32,001, exclusive of crews, and the freight transported aggregated 3,108,083 pounds, in addition to 739,082 pounds of mail.

No attempt has been made to estimate the mileage flown by civil aircraft engaged in forestry patrol, fishery patrol, surveying, advertising, school instruction, and exhibitions, but the hours flown in such services were as follows: forestry patrol 25, fishery patrol 23, photography-surveying 142, school instruction 1,235, and exhibitions 296.

An important phase of civil aviation in Canada is the transportation of freight, express, passengers and mail to the mining districts of the Northwest Territories. Modern-type aircraft now bring many areas once almost inaccessible to within a few hours flying time of large centres of population.

No. 18. Fri. Oct. 18, 1940 --- Canada's Well Stocked Larder.

Although Canada has been at war for over a year, winter coming on will find her larder well stocked with good things to eat. A recent survey of food storage in the Dominion reports that with the exception of cheese and eggs the stocks of all products were higher in September this year than the ten-year average for that month.

The most important foodstuff in store is wheat. Canada had over 358 million bushels on hand in the latter part of September and there is still a large portion of the 1940 crop remaining on the farms. This amount is somewhat over 100 million bushels more than was in store at the same time last year.

Vegetables also form an important part of any larder and Canada's supply is by no means lacking. After two years of below-average potato crops, this fall an approximately normal harvest is expected. An official estimate places the production at 40,859,000 cwt., a 12 per cent increase over that of 1939. This year's crop of peas is estimated at 1,334,000 bushels which is almost 27,000 bushels above that of last year.

Besides vegetables, Canada has a large fruit storage on hand. Although the apple harvest was smaller this year than in previous years, other fruit crops are expected

to be higher. The raspberry harvest has been estimated at $11\frac{1}{2}$ million quarts, apricots and loganberries from British Columbia only were placed at 64,000 bu. and 2,512,000 pounds respectively, pears about 560,000 bushels, grapes 38,000,000 pounds and plums and prunes approximately 225,000 bushels.

Canada's meat supply, estimated in early September, showed stocks of beef and pork to be somewhat in advance of those last year at that time. Although the increase in beef was slight, there were 13 million pounds more pork on hand than a year ago.

This is only a brief summary of food conditions in Canada. Yet it should be more than sufficient to make each man count his blessings and be glad that Providence placed him on this side of the Atlantic. The figures of a similar food survey in sections of war-sick Europe would be pitifully small in comparison.

No. 19. Sat. Oct. 19, 1940 — Race Track Betting.

During 1940, the Dominion Department of Agriculture supervised parimutuel betting at the tracks of 26 racing associations, holding 35 race meetings, comprised of 284 days racing, 2,057 races and 16,674 starters, as compared with 26 racing associations, holding 35 race meetings, comprised of 285 days racing, 2,061 races and 17,074 starters, in 1939.

The total amount wagered for the whole of Canada was \$21,355,037 as compared with \$21,695,523 in 1939, a decrease of \$340,486. Gate receipts in 1940 were \$605,095.47, as compared with \$626,023.50 in 1939, a decrease of \$20,928.03. Gate receipts do not show a true picture of the attendance as some tracks have several ladies' days on which the ladies are admitted on payment of the provincial tax only, while some tracks are quite liberal with free passes. The prize money paid in 1940 was \$1,051,824, last year \$1,070,770, a decrease of \$18,946.

Racing statistics for 1940 by provinces are as follows, the figures for 1939 being in brackets:—

Quebec—Number of days racing 56 (56), gate receipts \$31,125.95 (\$38,118.87), amount wagered \$1,427,549 (\$1,838,285), prize money \$144,200 (\$147,500).

Ontario—Number of days racing 98 (98), gate receipts \$353,746.45 (\$375,438), amount wagered \$12,859,315 (\$12,858,640), prize money \$528,400 (\$544,400).

Manitoba—Number of days racing 28 (28), gate receipts \$63,259.55 (\$67,462), amount wagered \$2,134,464 (\$2,226,603), prize money \$108,500 (\$109,100).

Saskatchewan—Number of days racing 12 (12), gate receipts \$53,171.10 (\$29,833), amount wagered \$429,894 (\$373,205), prize money \$24,500 (\$23,600).

Alberta—Number of days racing 31 (33), gate receipts \$32,070.25 (\$34,283.90), amount wagered \$1,116,227 (\$1,113,997), prize money \$62,864 (\$66,375).

British Columbia—Number of days racing 59 (58), gate receipts \$71,722.17 (\$80,887.73), amount wagered \$3,387,588 (\$3,244,793), prize money \$183,360 (\$179,795).

The largest amount wagered was at the fall meeting, at Dufferin Park, Toronto, \$1,263,742, and the smallest amount was at a one day meeting at Claresholm, Alberta, when \$464 was wagered.

No. 20. Sun. Oct. 20, 1940 -- Heart Throbs and Brain Waves -- 1.

Stringent tests to ensure that every prospective pilot, air observer, wireless operator and air gunner for the Canadian Air Training Scheme is perfectly fit for his duties are being applied by the Dominion authorities.

The brain waves, heart throbs and breathing patterns of each recruit are being studied by the Clinical investigation unit of the Canadian National Defence Department.

The research work of this unit in this new branch of medical science has aroused the admiration of military doctors and scientists all over the world.

Canada requires thousands of physically fit young men to man the fighting and bombing aircraft of the air force when they have completed their intensive training under the British Commonwealth Air Training Plan. This research ensures that the selection system for this mass production will be as sound as is humanly possible.

The Medical Selection Boards eliminate men who have certain physical conditions which from past experience are known to be a handicap to an airman. But these physical conditions are not apparent in the ordinary medical examination and so the Clinical Investigation Unit has created equipment in its laboratory which precisely simulates conditions at any altitude desired and at any degree of speed.

Special attention is paid to see if recruits have any heart damage which might be resultant from mild or perhaps unnoticed rheumatic fever in childhood. The young man with this condition might never become aware of it if he lead a normal life on the ground. But once he encounters abnormal conditions in the air the results might well be fatal. The Investigation Unit seeks out these cases not only to save a human life but in the knowledge that a failure of that life under certain conditions might well mean the loss of a £50,000 bomber, the loss of the £10,000 or so that was necessary to train a full bomber crew and the loss of the four or five highly trained members of the crew. The first class athlete with a potential cardiac condition might well succumb to the lack of oxygen he would encounter at 12,000 feet.

Ordinary clinical means will not always discover these relatively mild weaknesses of the heart but the Investigation Unit employs the electrocardiogram which produces a graphic record of the electrical activities of the heart.

Work is being done in a similar manner to find those airmen who may not be able to accustom themselves to the drastic changes of position which their air duties impose. Some men become air sick every time they take to the air, others only under bad conditions. Certain of these are so sensitive and experience such nausea and feebleness that their efficiency is dangerously impaired despite the fact that their courage would have them carry on.

The Investigation Unit is using equipment which closely simulates changes in position and thus enables authorities to weed out those who would otherwise ultimately prove unsuitable. In this way a great amount of time and money that would be spent in training these men for air duties is saved and the men are directed into different classes of work.

No. 21. Mon. Oct. 21, 1940 -- Heart Throbs and Brain Waves -- 2.

The brain as well as the heart is being studied by the Investigation Unit and

much work is being done in defining the characteristics which best fit the man to be either a pilot or a gunner or an observer.

A relatively new science, electroencephalography, has been utilized to learn about the "brain waves" of the young aircraftmen. The brain, like all nervous tissue of the body, gives rise to electrical potentials which can be "lead off" from the scalp by means of silver electrodes and amplified through vacuum tubes and recorded on moving paper by ink-writing pens attached to an oscillograph.

The electroencephalograph, in general, is to the brain what the electrocardiograph is to the heart.

This type of study is being correlated with the practical work of the gunners, observers and pilots as they go through their courses of training.

Records are also taken of the "breathing pattern" of each individual. This is done by using a simple spirometer which records the rate and depth of respiration as well as the regularity of the breathing. Specific correlations have been made on airline pilots, and it is also known that certain types of breathing are associated with various psychological and emotional states.

Every Aircraftman who goes through the Initial Training School of the Empire Air Training Scheme and consequently through the Clinical Investigation Unit gets experience and training in the low pressure chamber.

The Aircraftman, with an oxygen mask fitted to his face, enters the chamber with a trained "observer", who is always taking oxygen. Inside the chamber he sits on a padded seat and goes through many of the sensations of flying. These are created by an operator outside who varies the pressure in the chamber up to 25,000 feet, and who can "fly" them into ascents and descents. During the testing he is given practical demonstrations of when to use and when not to use oxygen. Under certain conditions vision is decreased, hearing affected and the co-ordination of movements made sluggish. It all becomes very real. The reactions of each man are recorded by the operator from beginning to end.

By such means the recruits are taught why and how to keep their ears clear, how to use oxygen equipment, the effects of the lack of oxygen, the improvement in human performance in high altitudes as a result of using oxygen, and the effects of diminishing atmospheric pressure.

It is not the purpose to attempt, as a result of these various types of investigation, to disqualify men from flying duties. It is an attempt to select them.

No. 22. Tues. Oct. 22, 1940 -- Household Storage.

All fruits and vegetables selected for household winter storage should be fully grown and free from damage caused by insects, rough handling, mechanical injury, freezing, and chilling, states R. E. Robinson, Chief, Fruit and Vegetable Field Services, Dominion Department of Agriculture, in a bulletin on "Household Storage of Fruits and Vegetables". Great care should be exercised in grading and sorting the produce for storage so as to eliminate decayed or partly decayed specimens. Samples of such products as apples, potatoes, and turnips, should be selected and cut to determine internal injury. Apples are subject to internal defects caused by railroad worm, bitter pit, core flush, corky-core, and water core; potatoes may have black

heart, mildew, blight, and internal browning; and turnips may be affected with brown heart. All fruits and vegetables with internal injury should not be stored.

Useful information in connection with successful storage is given concisely in the bulletin--how to arrange the storage room, selection of varieties of apples, potatoes, onions, cabbage, and other vegetables.

In storage, it is essential that all specimens be thoroughly dry and clean, since, if moisture is allowed to remain on the produce, decay is bound to follow. During the storage period, the fruits and vegetables should be sorted regularly and defective specimens completely removed from the storage room, as refuse if allowed to remain causes contamination of sound stock. The bulletin may be obtained by writing to the Publicity and Extension Division, Dominion Department of Agriculture, Ottawa.

No. 23. Wed. Oct. 23, 1940 -- House Plants.

Some women keep cats as a hobby, others dote on small, fluffy lap-dogs, still others fancy canaries and gold fish, and we even heard of one lady who had a peculiar yen for raising snakes. But the most universal hobby among home-makers is the raising of house plants. No home seems complete without some sort of foliage or flowering plant adorning the window sills. They seem to give the place a "lived in" atmosphere, a feeling of warmth and contentment that nothing else seems able to bestow. Now, especially, with the riotous color of the gardens fading and winter drawing near, more attention is being paid to the cultivation of plants indoors.

There are a number of different species of plants, suitable for inside growth, plants that require a minimum of attention and which lend themselves admirably to atmospheric conditions indoors. First there are the succulents, usually called cactus. These, on the whole, require little moisture, a light soil and thrive in hot rooms. The majority of these are grown for their peculiar shapes rather than for their bloom. However, there is a Christmas cactus that bursts into color about the end of November or the early part of December and blooms gaily amid the glitter of Christmas tinsel and holly. After the blooming, a rest period with little water is desirable. In this way the strength and virility of the plant is maintained.

The most common of all house plants is the geranium. It does well in sunny windows and should not be placed in large pots as it blooms better in smaller ones. Cuttings taken in summer make the best plants for winter bloom. Petunias can be treated like geraniums and are colorful house plants.

The everblooming, small flowering Begonia semperflorens is one of the most satisfactory of indoor plants. The leaves are reddish brown when grown outdoors in hot sunlight, but usually turn green in winter.

Coleus, the plants often called "Foliages" are common and should be given plenty of sunlight, otherwise they lose their color. Ferns, on the other hand, require a little direct sunshine but a hot, dry atmosphere is bad for them. They should have a rich leaf mould soil and plenty of water. They are subject to scale insect attacks and any found should be destroyed at once.

While many people devote their leisure time to cultivating house plants, a small minority prefer to keep cut flowers in the home for decoration. Last year in Canada these flowers and greens were purchased to the value of well over two million dollars. Roses were by far the most popular with carnations and tulips next in order.

However, whether the flowers in YOUR home are "home-grown" houseplants or "made-to-order" blooms from your florist, matters little. Any plant will add immeasurably to its beauty and attractiveness and provide an interesting side-line for the busy housewife.

No. 24. Thurs. Oct. 24, 1940 -- Prepare Lawn for Winter.

It is a common practice to neglect the lawn after the final mowing in the fall. There are, however, a number of operations which may be carried out to good advantage. Although the grass may be permitted to go into the winter slightly longer than the normal height, a long, matted growth is definitely undesirable. It is recommended that the turf be cut as long as it is making active growth, says J. H. Boyce, Division of Forage Plants, Central Experimental Farm, Ottawa.

The removal of weeds from the lawn is just as important during the fall as it is during the growing season. If the lawn is thoroughly weeded just before freeze-up and proper fertilization and other suitable cultural practices are started sufficiently early the following spring, future lawn weed problems will be considerably reduced.

A great deal of the winterkilling which takes place in lawns may be attributed to poor drainage, either because of smothering by standing water or ice sheets, or because of failure of the lawn to drain rapidly in the spring, thus encouraging disease. Consequently, every effort should be made to ensure proper drainage. In some cases where the subsoil is very compact, tile drains are necessary in order to provide adequate under-drainage. It is important that there are no low areas in the lawn surface. Shallow depressions may be levelled by topdressing with good topsoil. In the case of deeper hollows it may be necessary to lift the turf, build up the level of the soil to the desired height with good topsoil and then replace the sod.

All leaves and other trash should be raked from the lawn during the fall. The practice of providing winter covers of manure, straw, leaves or similar materials is not recommended, since they are not necessary and frequently do more harm than good. In addition to being unsightly, such covers tend to smother the grass, favour disease, and harbor insects. Manure and straw may contain numerous weed seeds. Leaves are particularly harmful since a mat of wet leaves will smother the grass very quickly. If manure is used on the lawn as a topdressing it should be finely pulverized and worked down into the turf so that no lumps lie on the surface. Any manure used should be thoroughly decomposed and free from weed seeds.

Several of the late fall operations are designed to combat the disease known as snow mould. The fungus causing this disease thrives under moist, cool conditions. Although it may occur in the fall, winter or spring, it is usually most prevalent in the early spring when the snow is melting. In the first stages of the disease, areas of the turf become covered with a white cottony growth. Later these areas become gray in colour and finally the affected grass becomes light brown. In serious cases the diseased turf is killed. On lawns where the disease is known to be prevalent it is a good policy to treat for snow mould in the late fall. An application of a mixture consisting of two-thirds calomel and one-third bichloride of mercury at the rate of three to four ounces per 1,000 square feet produces satisfactory results. The best way to apply this material is to mix the required amount of the mixture with sufficient dry sand to spread it uniformly over the area. Even distribution is essential. It is desirable to lightly water the lawn immediately after application. These materials are extremely poisonous and corrosive to metals, and should be handled accordingly.

No. 25. Fri. Oct. 25, 1940 -- Control of Hop-Vine Borer.

While carrying out a brief inspection of some of the hop-yards in the vicinity of Fournier, Ontario, recently, eggs of the hop-vine borer were noted in considerable numbers on green foxtail (*Setaria viridis* L.) growing in the general vicinity of the vines. This insect is fairly common during certain seasons in parts of Eastern Canada where specializing is undertaken in the production of hops and, under some circumstances, may cause considerable crop loss, says A. G. Dustan, Division of Entomology, Science Service, Dominion Department of Agriculture.

In the larval or caterpillar stage this insect reaches a length of about one and one-half inches when fully grown; it is a dirty-white colour and virtually devoid of ornamentation. When younger, the borer is slightly pinkish, particularly over the back, and is variously ornamented with rose-red markings.

The eggs of the hop-vine borer are laid by the parent moth in the late summer, almost entirely on green foxtail growing in the hop-yards or along surrounding headlands. Hatching does not take place until the second week in May of the following year when the tiny caterpillars either feed for a time on various grasses or migrate immediately to hops. Injury to hops may be to the tips of the new growth, to the tender vines or, later in the season, to the roots. The last mentioned is the most important as it seriously weakens the plants and causes a reduction in the yield the following season.

The most obvious method of control, and the most effective, is a cultural one. If at the time when the eggs are being laid, that is just prior to picking, the yards are cleaned of all grass and weeds and more particularly of green foxtail, the female moths will be forced to lay their eggs in the headlands where they can subsequently be destroyed by burning the grass or spraying them with crude oil. Such a method is fairly simple in old yards but more complicated in new plantings where the young hops are frequently intercropped with potatoes or beans. To keep down weed growth to the lowest possible point in these yards it is suggested that the year before planting the ground be summer-fallowed until mid-summer and then planted to buckwheat which might be cropped or ploughed down in the autumn. The following spring the yard could be set out and during the first summer every effort made by rigid cultivation to keep down weed and grass growth. Such a practice would force the moths to seek outside the yard for suitable plants on which to lay their eggs, thus protecting the young hops from borer attack during the next spring.

No suitable control for this insect by chemical methods has as yet been devised.

No. 26. Sat. Oct. 26, 1940 -- Less Beef Being Eaten.

Consumption of meats in Canada in 1939 per head of population is officially estimated at 118.9 lb., an increase of more than two lb. per head over the 1938 consumption. With reference to individual commodities, more pork, veal and lard and less beef were consumed in 1939 than in 1938. The consumption of mutton and lamb remained unchanged. The consumption of pork per head of population in 1939 is placed at 52 lb., an increase of 4.2 lb. on the previous year; veal consumption rose from 11.8 lb. in 1938 to 12.1 lb. per head in 1939, and lard at 5.8 lb. per head showed an increase of nearly 1½ lb. over 1938.

Beef consumption declined from 51.6 lb. per head of population in 1938 to 49 lb. per head in 1939. Although the total output of cattle in Canada in 1939 showed an in-

crease over that of 1938, exports of cattle during 1939 were almost double those of 1938. The consumption of mutton and lamb at 5.8 lb. per head of population was the same as in 1938, which in turn was one lb. less than in 1937. It is expected, says the official report, that during the next three or four years consumption of beef will continue to decline. While the numbers of cattle are continuing to increase on Canadian farms, the present tendency is to withhold stock from market for the purpose of building up herds. Pork consumption during 1940 will probably be even greater than in 1939. A very considerable increase in production over 1939 has taken place, and, although exports to the United Kingdom have increased, there will be a large supply of pork available for Canadian consumers.

No. 27. Sun. Oct. 27. 1940 — Ukraine in Poland.

Reports that Germany is organizing Ukrainian units in German-occupied Poland arouse comment in both Polish and Ukrainian papers published in Canada. "Czas" (Polish Times), Winnipeg, prints messages from London, Zurich and Cracow telling of the organization of Ukrainian units in both Poland and Czecho-Slovakia. "The Germans," says the London message, "want to create hostility between the Poles and the Ukrainians and for this reason they are granting the Ukrainians so much freedom. On the other hand, they think that the organized Ukrainian battalions will be of use against Russia if necessary." The Zurich message cites reports that the German Government has brought tens of thousands of young Ukrainians into Czecho-Slovakia for the purpose of giving them military training. "The Germans," the message adds, "intend to organize a Ukrainian army and to send it against Russia in order to recuperate the Ukraine."

"Ukrainsky Holos" (Ukrainian Voice) warns against the organization of Ukrainian Nationalists. "The main thing," says Ukrainian Voice, "is that under the name of the Organization of Ukrainian Nationalists a small group of Ukrainian emigres is hiding, which has tied its political plans with those of Germany and is serving Germany... A Ukrainian who is a Canadian citizen should understand that, as his and his children's life is connected with Canada, he would cut the very branch on which he is sitting if he turns against Canada. This does not mean that he cannot do anything to help Ukrainian people overseas. He can and he should do it, but he should always take into consideration whether or not his actions can be reconciled with his status as a Canadian citizen... He who interprets Canadian freedom as a license to cause disorder in the Canadian home, who utilizes Canadian democracy in order to overthrow the very same democracy in Canada and to impose a Russian or German yoke upon the Ukrainian people in Europe, then it is not enough to persuade such an evil-doer with calm words, to argue or to quarrel with him. It is imperative to warn the public of him, as of a pest, a fire or a Tartar invasion."

Canadians All.

Ukrainian papers generally announced unification of a number of Ukrainian associations in a central body known as "Ukrainian Canadian Committee." The purpose of the Ukrainian Canadian Committee will be fulfilment of the war efforts of Ukrainians as citizens of Canada and the co-ordination of work in all common efforts of the Ukrainian people.

"Kanadiysky Ranek" (Canadian Morning) Ukrainian semi-monthly, Winnipeg: We are no more Englishmen, Frenchmen or Ukrainians. We are now Canadians, bound with common vital ties and with the spirit of sacrifice for this our beloved country."

No. 28. Mon. Oct. 28, 1940 -- Building Canadian Warships.

Almost dormant since the end of the First Great War, Canada's shipbuilding industry within a year has been brought back to capacity production to meet the needs of the Dominion war effort. Some 15,000 workmen are engaged at more than two score shipyards on the east and west coasts, along the St. Lawrence River and on the Great Lakes, constructing modern naval vessels particularly adaptable to the requirements of the Royal Canadian Navy. Ships are also being built for the Royal Navy.

The major naval programme involves the construction of about 65 sleek, speedy corvettes and some 30 minesweepers at a cost of approximately \$52,000,000. It is anticipated that by the end of the year about half of the corvettes and five minesweepers will have been delivered to the naval services.

Three fast passenger liners have been converted into armed merchant cruisers at a cost of \$1,700,000. This expense was amply justified recently when one of these cruisers, the Prince Robert, captured the Nazi express cargo vessel, the Weser, thought to be acting as a supply ship to submarines off the coast of Mexico in the Pacific Ocean.

Other merchant vessels have been fitted with equipment to defend themselves at sea and trawlers have been converted for minesweeping. Work is under way on a programme for the construction of high speed motor torpedo boats, rescue vessels, and target boats for bombing practice. A \$500,000 small boat construction programme includes refuelling scows and fast rescue boats for the Royal Canadian Air Force, aircraft and bomb loading tenders, salvage boats and other pieces of floating equipment for the handling of supplies of all kinds.

Existing shipbuilding facilities have been used exclusively and some facilities have been developed to permit enlarged operations where shipbuilding workers and technicians are available.

No. 29. Tues. Oct. 29, 1940 -- R.C.A.F. Engine Mechanics.

A fighting aeroplane with a balky engine is as useless as a crippled duck. Lack of engine power might leave the crew helpless before the foe in battle or might plunge them into the sea or into rough inhospitable country on a long flight.

Royal Canadian Air Force pilots, Air Observers and Air Gunners have a warm regard for the highly skilled Aero Engine Mechanics of the R.C.A.F. who keep the aeroplanes serviceable. Their work is unspectacular, but just as important in its way as the work of the trained men who fly the planes. A crew charged with taking a bomber 400 miles out over the Atlantic on convoy patrol, for instance, must be sure that the engines will maintain a steady, rhythmic roar and not falter and fall into silence when a landing field is over the horizon.

The powerful engines of R.C.A.F. receive all the care and attention of thoroughbred racehorses. Engines are inspected before and after flight, and any worn parts immediately replaced. Valve clearances are carefully checked and everything possible done to keep the engines and controls in perfect condition at all times. At regular intervals of 300 or 400 flying hours, the engines are temporarily removed from service for a complete overhaul. The engines are taken apart, cleaned, and all parts minutely inspected for flaws and for signs of wear. Any worn parts are replaced and the engines are reassembled and tested on a test stand before being placed back on their

mountings in the aircraft.

The modern aircraft engines are complicated pieces of machinery, and their care and maintenance require careful training out at the R.C.A.F. Technical Training School at St. Thomas, Ont., which has turned out some 1,500 mechanics of all types so far and is turning out 150 more each week.

The aero engine mechanics course lasts about 18 weeks and provides a practical education in the craft for Canadian Boys, many of whom come from garages and technical schools all over the country, so that they have a trade to work at when the war is over.

No. 30. Wed. Oct. 30, 1940 — Control Marten Trapping.

With a view to protecting the marten against extinction, new regulations governing the catch of this valuable fur-bearer will go into effect in the Northwest Territories on July 1, 1941. The new ruling will establish a limit per trapper of two martens per year in Wood Buffalo Park, and in the area south of the Liard and Mackenzie Rivers, Great Slave Lake, Lockhart River, Artillery Lake, the Thelon Game Sanctuary, Beverley, Aberdeen, Schultz and Baker Lakes, and Chesterfield Inlet. North of this line the annual limit will be twenty animals.

Before trapping marten, trappers will be required to secure annual permits which will be issued without charge to holders of Northwest Territories trapping licences and to natives entitled to trap without a licence. The trappers are required to return these permits and present all pelts taken under them to a Royal Canadian Mounted Police post before June 30 following the date of issue. The pelts will then be marked and returned to the trappers. The regulations also prohibit traders from accepting unmarked pelts. This system has been in vogue for some years in the control of beaver trapping.

The annual marten catch in the Northwest Territories, which averaged more than ten thousand pelts annually in the ten-year period preceding 1930, has decreased to an alarming extent. In 1939 the take was only 3,791 pelts, which reduction is attributed to extensive forest fires and intensive trapping. As the pelts are valued at about \$25 each the light catch has meant reduced revenue to trappers. It is hoped that the new regulations will result in an increase in the number of martens in the Territories to the ultimate benefit of the native population.

No. 31. Thurs. Oct. 31, 1940 - Hallowe'en.

I am the ghost of
John James Christopher Benjamin Bimms!
I was cut down right in the midst of my sins!
I've come up from down below,
I'll be off for an hour or so,
But when the cock begins to crow
Farewell! to Benjamin Bimms!!

Hallowe'en! — the one night a year when hobgoblins and witches, elves and imps, reign supreme, when ghosts and bats flit about with a clear conscience, and black cats wail on unmolested by mortal man. For sooth, humanity this night is forced to bow

humbly and submit to the influence of the forces of the darkest nether regions, while all manner of mystical things transpire.

The superstitions associated with All Hallow's Eve date back to early pagan times when folk were great believers in the supernatural. Originally, great feasting and celebrating went on for several days in honour of Pomona, the goddess of fruits. Fruit is still an important part of our Hallowe'en festivities.

Different customs prevail in various countries in connection with October 31st. In northern England it is known as Nutcrack Night, while in Yorkshire it is Cake Night. The ancient Scottish ceremonies on this "nicht" were filled with mystery and witchcraft. Burns, in his poem 'Hallowe'en', aptly describes the traditions that prevailed in his day in Scotland.

In days of old it was a common belief that a child born on Hallowe'en Day was bound to possess the faculty of perceiving and holding converse with supernatural beings. In some sections of the world that wierd idea still runs rampant. In still other parts of the globe this day is set aside as an occasion for visiting cemeteries and laying flowers on graves of relatives and friends.

Here in Canada, this is a big occasion for the youngsters. Today, all across the wide expanse of this Dominion, in cities and hamlets, children will be dressing themselves in queer costumes, eating pumpkin pie and going from door to door yelling "Trick or Treat!" or "Hallowe'en Apples!"

Apples have long been associated with Hallowe'en, and ducking for them in tubs of water, or eating them off a string is all part of the day's fun. This year Canada's apple crop is somewhat smaller than it has been in previous years, but there will be no shortage of the fruit for Hallowe'en celebrations. Estimates now place the apple crop at approximately 3,858,000 barrels, which is about 1,935,000 barrels short of the 1939 output.

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