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FROM THE

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C O N T E N T S

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Editor.

A Fact a Day about Canada

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from the

Dominion Bureau of Statistics

No. 1. -- Ninth Series of A Fact a Day

This is the first of the Ninth Annual Series of A Fact a Day About Canada from the Dominion Bureau of Statistics.

During the past eight years great changes have come over the world. When we began broadcasting each evening of the week this country was beginning to recover from what has come to be known as the Great Depression. Domestic problems were serious.

In the effort to stem the tide of depression, Canada had entered into a commercial arrangement with the other nations of the British Commonwealth which was known as the British Empire Trade Agreements. All countries made trade relationships after the manner which seemed to suit their needs best. Yet world policies on the whole were more or less chaotic.

Then there broke upon the nations the spectre of all-out war. Hitler and his Nazi armies invaded Poland on September 1, 1939. Non-aggression treaties were trampled under foot.

The United Kingdom and France, far from being prepared for hostilities remained true to their treaties with and given word to Poland and declared war upon Germany on September 3. Canada followed suit on September 10 and began to gird herself for battle. Now we have been more than three years at war, and Canadians, following their traditions, have been fighting gloriously in every theatre of war, which is now world wide.

For the past two years the Fact a Day has been used mainly for the spreading of the gospel of effort to do everything we can to assist in the march to victory, and we shall continue to do so, while at the same time assisting in the spread of correct information regarding matters that are interesting and vital to the needs of our Dominion.

To those thousands of school teachers who use these Facts to assist them in their classes we send greeting.

No. 2. — Wartime Canada.

After three years of war, Canada has turned its energies to total war in a way which far surpasses anything, in peace or war, undertaken by a nation of 11,500,000 people.

Although dollars and cents are an inadequate standard to gauge the war effort of a nation they reveal the growing power of Canada in arms and men. This year, it is expected, Canadians will spend over $3,300,000,000 on war -- on the Army, Navy, Air Force and on shipments of munitions, food and materials to Britain. The total of these expenditures is roughly twice the total cost of the First Great War from 1914 to 1920, including the cost of demobilization. It is also a large increase over the first two years and seven months of the present war, during which time $2,221,889,000 was spent.

With the money needed for non-war purposes Canada will spend not less than $3,900,000,000 this year, which is equal to nearly eight years of peacetime spending. It is expected that with greatly increased taxation and compulsory savings, there will be a deficiency of $1,755,000,000. It will be necessary to raise the largest part of this amount by war loans and war savings certificates.

To obtain the highest revenue in Canada's history, taxation has been increased sharply on incomes and many forms of goods and services. Entirely new taxes have been imposed. Income taxes and national defence taxes are combined with the compulsory savings deduction and taken from salaries and wages, or collected by means of compulsory instalments.

Heavier taxation will lower the living standards of Canadians. For example, a single person without dependents with an income of $3,000 will pay $1,064 in income tax. More than half the income of a person, in the same class earning $10,000 is taken by these taxes. A married man with two children and an income of $3,000 will pay $668 a year in income tax; with an income of $10,000 in this group, $4,546. In all cases a proportion of the tax will be returned as savings after the war.

Luxury goods are being further taxed. Taxes on cigarettes, tobacco, alcoholic beverages, soft drinks are now higher. Additional taxes have been placed on transportation, long distance telephone, telegrams and cables, and furs. New imposts have been made on a wide variety of luxury goods and entertainment.

No. 3. -- Cashews.

As one of the best lubricants for magneto armatures in air planes because of its high heat-resisting qualities, oil of cashew is nothing to be sneezed at right now. Although used industrially in unique combinations such as molding compositions, varnishes, insulating coatings, inks, and for termite-proofing of lumber, its utility as a vital war material far surpasses its peacetime employments.

The cashew originated in South America, but does not come to us from there. We get it from India where the Portuguese are supposed to have introduced it. In Southern India it is still referred to as "parangi Andi" or the Portuguese nut. Our acquaintance with cashews is not one of long standing. For centuries it remained practically unknown except in the far East and only since World War 1 has its culture, preparation and exportation become important.

Cashew trees grow wild, and are peculiar in that they bear both fruit and nut. The fruit is usually red or yellow and resembles an apple. About 65 per cent of it is juice and provides food for the coolies who tend the trees and gather the harvest. Seldom found in groves or orchards, the cashew tree thrives under almost any kind of growing conditions found in tropic zones. About 45 per cent of India's production of raw cashews is centred in the Madras Presidency.

The nut or kernel itself is very much like a peanut, but is crescent shaped, and retails at twice the price. It has a high nutritive value, containing 14.4 per cent protein, 4.5 per cent fat and 2.8 per cent ash. It is said to be superior to the almond or walnut in digestibility, and contains vitamins A and B2. Cashews are always roasted and peeled before being exported. The roasting is a hazardous business for the fumes from the burning oil are injurious. The

operation is carried on outdoors at many small plants, but is prohibited within municipal limits. Two or three pounds of raw nuts are placed in shallow semi-circular iron pans and heated over the open fire. Some of the oil in the shell catches fire and burns. At this point the contents are spilled out on the ground and sand or ashes thrown on to quench the flames. A deplorable quantity of the now extremely valuable oil is lost in the process. Special roasting machines have been designed to overcome these disadvantages but they are not in universal use. For export the nuts are vacuum packed in tins.

India exports most of her cashew kernels to the United States. In 1938, 84 per cent of the volume and 86 per cent of the total value of her export of this product were accounted for by our southern neighbours. The United Kingdom, France, Canada, Netherlands and Belgium were next in that order.

If there seems to be a dearth of these tasty nuts around Christmas this year, the time when you usually indulge in a little extravangance, you can find comfort in the thought that the cashews are probably seeing action somewhere over enemy territory.

No. 4. -- Natural Increase in Canada's Population.

The 1940 Annual Report on Vital Statistics contains as in past years a complete record of the registration of births, deaths and marriages carried out by the Provincial authorities.

The excess of births over deaths in Canada in 1940 was 11.7 per 1,000 of population, as compared with 10.7 in 1939. By provinces the increase per 1,000 population was as follows, 1939 rates in brackets: Prince Edward Island, 11.0(10.5); Nova Scotia, 11.8(9.9); New Brunswick, 14.2(13.7); Quebec, 15.7(14.4); Ontario, 8.0 (7.1); Manitoba, 11.6(10.2); Saskatchewan, 13.8(12.6); Alberta, 14.1(13.6); British Columbia, 6.9(6.3).

The birth rates per 1,000 population, exclusive of still-births, were: Canada, 21.5(20.3); Prince Edward Island, 22.2(22.4); Nova Scotia, 22.9(21.3); New Brunswick, 25.9(25.0); Quebec, 25.7(24.6); Ontario, 18.2(17.1); Manitoba, 20.3(18.7); Saskatchewan, 20.8(19.0); Alberta, 22.0(20.9); British Columbia, 17.4(16.0).

The following were the illegitimate births in 1940, exclusive of still-births: Canada, 9,609(9,105); Prince Edward Island, 98(100); Nova Scotia, 889(744); New Brunswick, 447(409); Quebec, 2,583(2,668); Ontario, 3,167(2,884); Manitoba, 548 (509); Saskatchewan, 645(673); Alberta, 681(617); British Columbia, 551(501).

The percentages of illegitimate births to total live births were: Canada, 5.93(5.97); Prince Edward Island, 4.7(4.7); Nova Scotia, 6.9(6.3); New Brunswick, 5.8(5.6); Quebec, 3.1(3.4); Ontario, 4.0(4.5); Manitoba, 5.7(5.7); Saskatchewan, 5.3 (5.7); Alberta, 5.9(5.7); British Columbia, 4.0(4.0).

The number of infant deaths under one year of age was: Canada, 13,783 (13,959); Prince Edward Island, 137(168); Nova Scotia, 802(781); New Brunswick, 934 (893); Quebec, 5,856(6,210); Ontario, 2,959(2,979); Manitoba, 756(752); Saskatchewan, 979(930); Alberta, 834(763); British Columbia, 526(483). Infant deaths in rates per 1,000 to live births were: Canada, 56(61); Prince Edward Island, 65(79); Nova Scotia, 62(64); New Brunswick, 80 (79); Quebec 70(78); Ontario, 43(46); Manitoba,

51(55); Saskatchewan, 51(51); Alberta, 48(46); British Columbia, 38(39). Male infant deaths were greater than female, the number of males in Canada being 7,844 and females, 5,939.

The chief causes of death were premature births, 3,194; pneumonia 1,358; congenital malformations, 1,409; diarrhoea and enteritis, 1,251; injury at birth, 954; congenital debility, 989; influenza, 598; whooping cough, 472.

No. 5. — Our Indian Population.

The births and deaths of Indians in Canada comprise only a relatively inconsiderable portion of the whole, but this is not so true of certain provinces considered individually. Moreover, in particular aspects of vital statistics, the figures for Indians assume an importance beyond the numerical proportion of this class in the population. For statistical purposes the term Indian includes half-breeds and other Indians non wards of Canada.

As to reported causes of death amongst the Indian population a large proportion of these are from other than physicians. Here are some enlightening facts from the 1940 report on Vital Statistics. The number of Indian births, exclusive of stillbirths in 1940 totalled 4,964 which was distributed as follows, by provinces: Prince Edward Island, 18; Nova Scotia, 62; New Brunswick, 89; Quebec, 335; Ontario, 970; Manitoba, 881; Saskatchewan, 792; Alberta, 893; and British Columbia, 949.

The total deaths of Indians, exclusive of stillbirths in 1940 aggregated 2,811, by provinces as follows: Prince Edward Island, 3; Nova Scotia, 29; New Brunswick, 41; Quebec, 193; Ontario, 452; Manitoba, 523; Saskatchewan, 431; Alberta, 505; and British Columbia, 644.

The downward trend of our Indian population has been halted, and during the past 15 or 20 years there has been a maintained steady increase. The natural increase from 1926 onward has been as follows: 1926, 704; 1927, 757; 1928, 824; 1929, 859; 1930, 1,138; 1931, 1,340; 1932, 1,734; 1933, 1,858; 1934, 2,026; 1935, 1,803; 1936, 1,574; 1937, 1,145; 1938, 2,115; 1939, 2,028; 1940, 2,153.

The Vital Statistics Branch of the Dominion Bureau of Statistics states that the growing natural increase has been due in large measure to the improvement in medical facilities carried out by the Department of Indian Affairs. The sudden drop in the natural increase in 1937 was due mainly to an epidemic of measles in the three most westerly provinces.

No. 6. -- Farming Today.

Farming at one time was largely a matter only of planting, cultivating, harvesting, and to a considerable extent the actual consumption and utilization of the crops and live stock produced. Today, farming involves much more -- long time planning, rotating and fertilizing to improve quality and increase yields, fighting insect pests and diseases of both plants and animals, marketing, and more immediately the proper utilization of all available chemicals, farm equipment, and other facilities to produce from the same acreage large quantities of food and raw material essential to the successful prosecution of the war.

Chemistry opens up a large and scarcely touched field in the use of farm materials in industry to produce plastics and other material of utmost importance in war. Thousands of individual articles are made from plastics, one of the main ingredients of which is farm-produced cellulose. Few people think of photographic film as being derived from the farm. However, it is made from cellulose, and a highly essential part of the film is gelatin, which is derived from the hides and hoofs of live stock.

Two war "essentials" are smokeless powder and glycerin — both of which stem from the farm. Smokeless powder is based on nitro-cellulose, and cellulose comes from farm-grown products. Dynamite, a commercial, rather than a military explosive, is aiding in building highways, tunnels, canals, harbours, and speeding up coal and other mining. Nitro-glycerin is one of the ingredients, and glycerin is derived from vegetable and animal oils from the farm. Every plant grown on the farm today may be a potential source of industrial cellulose, when research gets its chance to experiment and evaluate.

No. 7. — The Potter's Art

The making of pottery is one of the oldest branches of human industry, probably springing from man's primitive need of a convenient mode of conveying food and water to his mouth. It is believed that Egypt was the earliest home of ceramic art where excavation has unearthed specimens of pottery said to have been fashioned as far back as the 20th Century, B.C. In the East, ceramics have always held an important place, in fact from the earliest times production of the potter has been continuous in China.

The Incas of Peru and the natives of Mexico have left us the most beautiful and ingenious specimens, showing that among these tribes the potter's art had known great development. Many of the objects left by the Aztecs were also elaborately modelled and profusely decorated. The settlers of New England and the Southern States found the pottery of the nomadic tribes very course and fragile. Since that time the pottery industry in the United States has shown a wonderful development. Among the products of European countries several stand out prominently for their beauty and artistic merit.

The basic raw material for making pottery is clay, to which other substances are frequently added. Cornish clay or kaolin, a creamy white, plastic substance forms the main body of porcelain everywhere. Ball clay, also known as blue clay, is not as white but much stronger than kaolin, is very much in demand, but it cannot be used alone because it would warp and crack and cannot endure intense heat.

Canada's present day pottery industry may be said to have got its start at the close of the 19th century and since that time striking development has taken place. The industrial clays found in this country may be classified as common clays, stone-ware clays, fireclays, and china clays.

In the manufacture of such products as porcelain, sanitary-ware, dinner ware, ceramic floor and wall tile, china, clay imported from England is used almost entirely. In addition to clay for ceramic use, large annual importations of china clay are made into Canada for use in the production of fine paper, in the rubber industry and for other industrial purposes.

The gross value of Canadian producers' sales of clay and articles made of clay was $10,848,000 in 1940, of which domestic clay and products totalled $6,344,-000 and imported clay $4,504,000.

No. 8. -- Planting for Spring Flowering.

The earliest flowers to bloom in spring are grown from bulbs which must be planted in September or October. Most of them are hardy except in very cold districts where the snow covering is uncertain. In such places a position where the snow drifts and remains all winter should be chosen, if possible, or a covering of straw or strawy manure should be applied as soon as the ground freezes. Bulbs will grow in any good garden soil that is well drained but they may not if planted in ground on which the water stands for a lengthy period in spring. The bulbs should be planted deeply enough so that the tops are two inches below the surface of the soil.

Glory of the Snow is one of the earliest flowers to bloom and its pretty pale blue blossoms which face upwards open as soon as the snow melts. If allowed to do so the flowers set seed and self sow. In a few years time they will have increased considerably.

Siberian Squills bloom a little later and the flowers are more bell shaped and deeper blue in colour. These will flower under shrubs and are particularly effective if grown on a sloping bank. These also increase rapidly.

Crocus flowers early if grown in a sheltered position such as near the house, facing south. There are white, yellow and purple varieties.

Grape Hyacinth has a number of small blue flowers arranged at the top of an eight inch stem. They bloom a little later than Scilla. The bulbs increase rapidly and require dividing every few years. The leaves grow in autumn and should not be cut off.

Daffodil is the true harbinger of spring with its beautiful yellow flowers nodding in the breeze. The bulbs should be planted early in September and in cold districts the bed should be mulched. There are a great number of varieties and many of them are listed by Canadian bulb dealers.

Tulip is perhaps the best known of all spring flowering bulbs as it has been a feature of plantings in city parks for many years. The early-flowering varieties used to be used for beds but the Darwins and Mayflowering are the most satisfactory for planting in a mixed border. They should be in clumps of at least five and more are needed to look well in large borders. The bulbs can be left undisturbed for a few years but better results are obtained if they are lifted every year. This should be done when the foliage dries up in July. The bulbs, after drying, should be cleaned and then kept in a dry airy place until late September.

Although before the war bulbs were imported in large quantities from Holland, many are now grown in Canada and others are imported from England so it is still possible to get these beautiful garden flowers.

No. 9. -- Canada's Trade with New Zealand.

We have been speaking about New Zealand in general and trying to show how that country has been getting along in the matter of commodities and it will be of general interest to say a word or two about the Canada-New Zealand trade particularly.

New Zealand, as you know, has coinage similar to that of Great Britain, and for the sake of convenience in giving the totals we generally simply multiply the pound sterling by five in order to convert these totals into dollars. No doubt $4.86 would be more nearly correct, but the $5 for the pound is close enough for general purposes.

The total value of trade between Canada and New Zealand in 1941 was $29,479,000 and $22,987,000 in 1940. A feature of this trade was Canada's greater participation in business, the bulk of which is usually placed in the United Kingdom. New Zealand imports from Canada were valued at $15,358,000 as against $14,442,000 in 1940, while New Zealand exports to Canada totalled $14,121,000 compared with $8,546,000 in 1940. For the first year since New Zealand introduced in 1939 a policy of importation and exchange control, imports into New Zealand from Canada showed an increase as compared with that for the previous year. This is largely explained by the fact that by the end of 1941 practically all the non-essential items had been eliminated from the list of permitted imports and the point had been reached where more interest had to be shown in Canadian goods and materials of an essential character owing to the expanding requirements for war purposes, the increased demands for raw materials and semi-manufactured products for New Zealand secondary industries and the growing difficulty of obtaining deliveries from the United Kingdom.

The value of New Zealand's exports to Canada in 1941 was approximately 65 per cent more than in 1940 and the chief single item contributing to this substantial increase was wool. Advances were also made in tallow, rabbit skins, sausage casings, frozen mutton and lamb, beef, gelatine, calf skins and butter. The large increase in the exports of New Zealand butter to Canada from $55,050 in 1940 to $172,795 in 1941 is a little reminder of the political situation created in Canada some years ago by the large importations of butter from our British cousins in the Antipodes.

There were also increases in peas, cattle hides, grass and clover seeds and kauri gum sent to Canada from New Zealand. But decreases were recorded for sheep skins, casein and apples. Imports from Canada are now confined to such items as wood pulp, textiles, metal cordage, hardware, electrical apparatus, gumboots, iron and steel, bolts and nuts, pipes and tubing, etc. No statistics are available, of course, for war materials and equipment. There were noteworthy decreases in imports of apparel, silk and artificial silk piece-goods, wire fencing and wire, newsprint, fruit wrappers, electric motors, washing machines and so on.

No. 10. -- Barley Breeding.

The breeding of better barleys has always been a major Canadian farm project. The first recorded cross was made in 1896. As the years have advanced, the conception of what a good Canadian barley should be has changed somewhat. Today the ideal at which most plant breeders aim, is a smooth awned, high yielding

variety with strong straw, resistance to the rusts, the smuts, the mildews and other diseases to which barley is subjected, and one which also possesses good malting quality, or high feeding value.

Barley breeding is conducted by the Cereal Division, Ottawa, and on certain Branch Farms notably those at Brandon, Man. and Swift Current, Sask. The testing of all new promising varieties is participated in by all the Branch Farms and Stations.

At Brandon, the chief objective is a high yielding, smooth awned barley resistant to disease, more especially rust. At Swift Current, a smooth awned feed barley suitable for droughty conditions is chiefly sought. At Ottawa, crosses are made with many objectives in mind in view of the great variety of conditions which must be served. In recent years, breeding for mildew resistance has received special attention.

In attempting to secure better barley varieties for different parts of Canada, the Dominion Experimental Farms System, through its Cereal Division, and aided by its many Branch Farms and Stations, has had large numbers of varieties tested for yield and other characteristics, irrespective of whether these were the creations of Federal plant breeders or not. As a result the latter have been instrumental in promoting the distribution of a number of excellent varieties which were produced by others as well as introducing some of their own. Among the former might be mentioned such varieties as O.A.C. 21, the old standard malting variety; Olli, brought from Finland; Hannchen, brought from Sweden; Velvet and Regal, produced by the Minnesota Experiment Station. Newal, produced by the University of Alberta; Nobarb, produced by Ontario Agricultural College, Guelph, Ont.; Rex, produced by the University of Saskatchewan; and Byng, produced by Macdonald College, P.Q.

Of the varieties produced by the Dominion Experimental Farms the following three occupy a prominent place at present: Charlottetown, 80, a two rowed variety in the Maritimes; Plush, a smooth awned six rowed variety in Manitoba and parts of Saskatchewan; and Prospect, a very early smooth awned type, in South, Central and Western Saskatchewan.

Canadian farmers are fortunate in the assortment of barley varieties from which they are now able to make a choice. It is hoped that still better varieties will be available in the near future and judging from the performance of some, now under test, there is considerable cause for optimism.

No. 11. -- Canadian Munitions on All Battlefronts.

The factories of Canada are important to the world-wide war programme of the United Nations. Canadian munitions have been used in every battle of the war since Dunkirk -- in the Philippines, in Greece, Crete, Russia, China and the Middle East. They are being used in the defence of Canada. Last year the value of Canadian-made munitions was greater than the total produced in the whole of the last war.

The existing war production programme is expected to reach its peak early in 1945 when 910,000 persons will be employed directly and indirectly on war production.

The aircraft industry alone now employs about 50,000 persons where in pre-war days it employed about 1,000. The shipbuilding industry, which is working on a $550,000,000 programme, employs directly and indirectly about 60,000; chemicals and explosives, over 45,000; tanks and mechanical transport about 67,000 directly and indirectly.

The majority of munitions plants are now fully tooled and staffed and are approaching peak production. Rifles, machine guns, sub-machine guns, naval guns, 25-pounders, anti-aircraft and anti-tank guns are being made in increasing numbers. In six months more explosives are being produced than in the whole of the last war. The output of ammunition now exceeds all previous records. Factories in the country are making hundreds of thousands of shells each month.

In Canada's munitions programme almost every variety of modern weapon and military equipment is being made.

No. 12. -- About the Royal Canadian Navy.

The Royal Canadian Navy was founded only 32 years ago but it draws its inspiration from the centuries-old tradition of the Royal Navy, which down through countless pages of glorious history has stood for all that is free and noble.

Among the navies of world powers, Canada's sea force is not large, but its rate of expansion has no parallel. Since the outbreak of war its manpower has been multiplied 20 times to more than 30,000, and its ships, 30 times to more than 300. Thousands of recruits are waiting to enlist. By next April the Navy will have a strength of 44,000 men and 500 ships. More than 1,100 Canadians are serving in ships of the Royal Navy.

The expansion of the Canadian Navy is limited by the number of ships available for duty. Destroyers, corvettes, minesweepers and many types of smaller vessels are being rushed to completion for the Navy in Canadian shipyards.

The task of the Navy is threefold: to guard the Canadian coasts, to seek out and attack the enemy, and to escort convoys of cargo ships and troop transports.

The most notable service of the Canadian Navy has been in convoying munitions-laden merchant ships. Its duties have been further increased by the westward extension of U-boat operations into Canada's home waters.

U-boat attacks have, in fact, been carried into Canada's inland waterways. Two merchant vessels have been sunk by torpedoes in the St. Lawrence River. Enemy vessels have shelled Vancouver Island on Canada's West Coast.

In the current year the estimated cost of the Navy's operations is $260,000,000, equal to the total spent in the previous two and a half years of war.

No. 13. — The Canadian Army.

The Dominion of Canada is developing an army overseas which for its size, will be the most heavily armoured and hardest hitting force in the world.

Army expenditures this year will total $1,000,000,000. Canada is determined to spare no expense in ensuring that Canadian soldiers are second to none in training and unexcelled in the quality of their arms and equipment.

At home, since the outbreak of war with Japan, Canada has been increasingly concerned with the defence of her territory. The tempo of defence preparations has been accelerated. The East and West Coast areas have been placed under two commands. The air, sea and land services in these areas have been placed under the single command of the senior officer in the territory.

To give mobile reserve support for existing and projected defences on the Atlantic and Pacific coasts, the 7th and 8th divisions are being mobilized. The Reserve Army of more than 150,000 is being revitalized to strengthen home defences.

The Active Army now numbers more than 320,000, a large percentage of whom are overseas. The army in Britain is being reinforced by a steady stream of new contingents to bring it up to projected strength of three infantry divisions and two armoured divisions, in addition to two army tank brigades and thousands of ancillary troops and reinforcements.

The army overseas is being trained in commando-type tactics in preparation for more lightning assaults on enemy-held territory, and for the day when it will be in the spearhead of invasion forces.

No. 14. — Using Candlefish.

Growing demand for use as food for fur-bearing animals held in captivity on fur farms located on and adjacent to the Fraser River delta created an unusually good market for oulachons or candlefish in British Columbia during the past year and as a result the fishermen of the Fraser district brought in a record catch.

Prior to 1938 there was only a limited demand for oulachon as fur-farm food, but during that year, and in the following two seasons, experiments in feeding led to a definite expansion in the demands of the fur farmers.

As reported to the Dominion Department of Fisheries by its resident inspector, fishermen in the Fraser district landed a total of 1,932 hundredweights of the oil-rich fish in 1941.

It is the richness in oil, by the way, that gives the name of candlefish, since, because of it, the oulachon is sometimes utilized by the Indians as a candle.

Some 430 hundredweights of the 1941 catch were used fresh for human consumption, for the oulachon is a good pan fish; 1,498 hundredweights were stored for mink food; and the remainder were exported in the fresh and frozen state.

In British Columbia waters, the oulachon is taken for the most part by the use of gill nets. The species spawn in the main channel of the Fraser River and it is while en route to the spawning grounds that the commercial catches are

made. Fishing is carried out under licence so that no undue depletion of the species may occur and in 1941, despite the record catch, there was ample evidence that the increased landings did not unduly affect spawning.

No. 15. -- Trading with the Enemy.

The Canadian List of Specified Persons is a published list of firms and persons in neutral countries with whom intercourse or transactions of a commercial, financial, or any other nature without official permission constitutes the offence of trading with the enemy. Inquiries received from time to time by the Department of Trade and Commerce indicate that Canadian exporters still do not understand clearly the composition and object of this important part of Canada's necessary war organization.

The list was established under the authority of the Consolidated Regulations Respecting Trading with the Enemy and it forms an integral part of the machinery designed to prevent enemy countries from obtaining any economic or financial assistance from British Empire or neutral countries. It consists principally of concerns controlled directly or indirectly from enemy territory, and of firms or individuals who have persistently evaded, or tried to evade, the contraband or enemy export controls. Persons controlled from enemy territory are enemies within the meaning of the Trading with the Enemy Regulations, whether or not they are included in the List of Specified Persons.

Additions to the List are made only after careful investigation in order that unnecessary damage to neutral or British Commonwealth interests may be prevented. The Custodian of Enemy Property is always willing to consider representations from importers and exporters and other interested parties and to reply to inquiries on questions, such as the completion of unfinished transactions with persons placed on the list.

Enemy subjects who are not in enemy territory are not necessarily enemies within the meaning of the Trading with the Enemy Regulations, and it is not intended to specify persons in neutral countries as enemies merely because they are enemy subjects. Many subjects of enemy countries carry on business in neutral countries without assisting these countries, and in some cases are of assistance in the promotion of Canadian trade.

Nevertheless, enemy subjects, wherever they may be carrying on business should be regarded with suspicion, and Canadian traders who employ enemy subjects as agents in neutral countries would be well advised to consider displacing them either by British agents or by nationals of the country concerned. Firms who experience difficulty in obtaining suitable alternative agents should consult the Department of Trade and Commerce, Ottawa, or the appropriate Canadian Government Trade Commissioners.

No. 16. -- Rust-Resistant Wheat

The work accomplished by plant breeders during the past fifteen years in developing varieties of spring wheat capable of resisting the ravishes of that dread disease known popularly as "rust" is generally well known. Twenty years ago,

there was no bread wheat of commercial importance known that was able to resist rust, Today practically all of the bread wheat grown in Manitoba and the Eastern part of Saskatchewan consists of new rust-resistant types, all of which have been developed within the past decade. Such varieties as Thatcher, Regent, Renown and Apex have come to take the place of those old stalwarts of former days such as Marquis, Ceres and Reward. Today it is possible to calculate, often in millions, what these new creations have saved the country whereas less than ten years ago the losses from wheat stem rust were sometimes enormous.

While the work with spring wheat has occupied the spot-light in past years, yet accomplishments in the development of varieties of oats which are able to resist rust are proving of almost equal importance especially in certain regions where this disease has been particularly destructive. Large areas, especially in Eastern Canada, where oat growing was a precarious occupation, are now capable of producing satisfactory crops of this important cereal. Varieties such as Vanguard and Erban, the former resistant to stem rust and the latter to certain forms of leaf rust, have proved enormously valuable in large sections of Ontario as well as in certain parts of Quebec and the Maritimes.

As perfection is seldom if ever attainable, the work still goes on of trying to combine as many virtues as possible within the one variety. This work, centralized as it is, in plant breeding divisions of the Dominion Department of Agriculture, Agricultural Colleges and Universities, may justly be considered war work of major importance as it all has to do with volume and quality of output as well as with cost of production.

No. 17. -- Wartime Food Position in United Kingdom.

The principal responsibility of the United Kingdom Ministry of Food is to provide sufficient foodstuffs to meet the essential requirements of an adequate diet for the people. It is not enough that plenty of food be made available; what is more important is that the health of the nation should be maintained at a high standard in order that the demands made upon the human system under such abnormal circumstances as are occasioned by long hours of strenuous labour necessitated by increased production efforts, as well as the extraordinary nervous strain of being "in the front line", may be fully met. This has been achieved during the first two years of war. The health and physical fitness of civilians and of members of the Forces have been exceedingly good.

The necessity of finding alternative sources of supply on account of enemy occupation of important food exporting countries and of obtaining quantities of foodstuffs from sources still available have together presented a difficult problem. Fortunately the dominions and colonies, South America and the United States have been able to make up most of the important losses in European sources of supply. So far as volume and variety of products are concerned, these were better in the last six months of 1941 than during late 1940 and early 1941. In this respect the lend-lease arrangement with the United States was a very important factor.

Shipping losses became dangerously high early in 1941. There was a serious shortage of refrigerator space and, although this will undoubtedly continue to be a serious problem, nevertheless the ships were found in sufficient tonnage not only to meet current needs but also to provide reserves of food during the latter part of the year.

In this connection various experiments were undertaken to determine the feasibility of carrying perishable products in ordinary stowage, supplemented by temporary types of refrigeration or insulation. The results of some of these experiments were most encouraging.

The convoy system was generally employed to cut losses through enemy action. This system increases the average length of a voyage and the consequent risk of damage to perishable cargo through time in transit, in many cases under conditions of unfavourable temperature and imperfect ventilation control.

Many ports in the United Kingdom were subjected to heavy air raids. This disorganized arrivals and unloading schedules. Ports that in normal times received little of certain products were suddenly transformed into congested reception centres for shipping. Facilities and labour were not always adequate or suitable for handling certain cargoes. Notwithstanding all of these difficulties, the time of unloading and turning around of ships was greatly improved during the year.

Arrivals at other than normal ports heavily taxed rail and road transport facilities for initial distribution. Loss of storages and warehouses in port areas and their vulnerability necessitated the dispersal of cargoes to points often far distant. These difficulties added greatly to the general problems of distribution.

Estimated requirements in foodstuffs must take into consideration not only the amount necessary to meet rationing regulations but also adequate supplies for reserves and sufficient to take care of probable losses due enemy action. As most of the supplies of staple foodstuffs are purchased under yearly contracts or agreements, it is apparent that allowance must be made for ample margins of safety.

In order to carry out as efficiently as possible, the duties allocated to it, the Ministry of Food has obtained the services of many who in normal times held important places in produce and other food trades. The process of distribution is carried on in much the same way as in peace time, except that the first-hand distributors, i.e. the importers, are grouped together into importers associations and work solely for the Ministry of Food. Price control and rationing policies are the subject of change from time to time, depending on the supply situation.

No. 18. -- Transferring Pullets.

The time is approaching when the pullets that show signs of laying must be transferred from the range to their laying quarters. One vitally important factor leading to a satisfactory egg yield from the flock, from now on, is the careful selection of only vigorous and well matured birds. The profits will be determined by the quality of the flock and the good bird with proper care and feeding will prove to be an asset. Any amount of feed and care can make nothing but a liability of the poor bird.

Before being placed in the laying house, every bird should be examined individually and any showing physical defects or those that are under-developed for their age should not be held under any circumstances. Glossy, tight, smooth feathering, a bright eye, healthy red comb and wattles and good weight for age are accurate indications of vigorous health and constitution.

Though culling should be a periodical practice, a rigid selection of only the sound birds should be the order at this season. If left in, the unthrifty weakling will take up the space, feed and labour that might be devoted to a profitable layer, and at the same time she may be a danger to the rest of the flock. Poor vitality offers little resistance to disease and parasites and an outbreak may mean all the difference between profit and loss.

Remember the pullets have had unmolested freedom on the range with an abundant supply of green feed, so make the change to confined quarters as little noticeable as possible. Handle them gently avoiding overcrowding in the carrying crates, and while the weather is favourable keep the windows in the laying house open, allowing as much fresh air as they have enjoyed in the range shelters. Supply all the green feed they will eat as long as fresh greens are available. They have been used to an unlimited supply and if this is cut abruptly they may go into a premature moult.

As far as possible avoid undue excitement until the pullets have become familiar with their new surroundings and by degrees work them onto the feeding programme that you have laid out for the coming winter.

No. 19. -- Tree Fruits Require Fertilizers

In order that fruit trees may produce heavy crops of high quality fruit, adequate supplies of a large number of mineral elements are required in the soil. These elements are not always in quantity sufficient for the needs of the trees. Thus nitrogen, phosphorus, or potassium may become deficient, and may need to be added in some form for plant use. In addition, it may become necessary to apply small quantities of other elements, such as sulphur, iron, zinc, copper, or boron. That element which has been found to be needed most in orchards throughout the world is nitrogen. However, favourable responses have been obtained from one or more of the other elements in almost every locality.

In the Okanagan Valley, a number of fertilizer experiments have been conducted with fruit trees, by both the Provincial and Dominion Departments of Agriculture. Thus far, only two elements have been found to be required in the majority of Okanagan orchards -- nitrogen and boron. In a few cases, some results have been apparent from phosphorus and potassium, but not sufficient to justify general application of these elements.

The vigour of the tree is one of the best indications of the sufficiency or defiency of the nitrogen supply in the soil. A satisfactory method of estimating the vigour is to measure some of the terminal shoots growing out at an angle around the outside of the tree. If the shoots are too short, more nitrogen is needed; if they are too long there is already more than enough nitrogen present. Experience indicates that for bearing trees, the happy medium is approximately ten inches for apples, pears, plums, prunes, and cherries, whereas a terminal growth of about twenty inches is desirable with peaches and apricots.

Ammonium sulphate, which contains twenty per cent of nitrogen, is the fertilizer most extensively used in Okanagan orchards. The amount required to secure the desired growth varies with the variety, age and condition of the tree. For example, young apple trees in orchards where leguminous cover crops are grown may require no additional nitrogen whatever, whereas mature cherry trees carrying

heavy crops sometimes need up to 20 pounds per tree of ammonium sulphate. In many orchards application of 4 to 8 pounds per tree per year is giving good results. On light shallow soils phosphorus should be applied as well as nitrogen.

The best time to apply fertilizers in the Okanagan is in the late fall, and the next-best time is as early in the spring as possible. Sulphate of ammonia should be spread around each tree, in a band 5 or 6 feet wide within the outermost spread of the limbs. The same may also be done with ammophos and potash. However, since these materials are both retained by the surface soil to a considerable extent, it is usually preferable to apply them in the bottoms of the irrigation furrows, where they come into closer contact with the tree roots.

No. 20. -- Mopping Up.

"Mopping Up" operations are in full swing down on the Atlantic coast where more than U-Boats are avidly hunted down and destroyed. Fishery experts down there are now out to get the Starfish -- Public Enemy No. 1 among oysters.

Canada's oyster production is becoming increasingly important under the impact of war conditions which have stopped purchases of these tasty shellfish from other countries, and thus added attention has been focused on the natural enemies of the oyster family.

To combat the nuisance "starfish removal" is carried out with "mopping" the most common procedure. Recent tests made by fisheries' scientists to check the efficiency of this method of starfish control have brought most satisfactory results. Mops are made from cotton waste tied to a piece of wire, each mop being three or four feet long. A gang of mops -- usually seven or eight -- are attached to one side of a heavy iron triangle measuring five or six feet to a side, and the gear is towed over the infested area by a motor boat. The starfish become entangled in the mops and may be picked off by hand or killed with hot water. Two sets of mops are used by each boat, one being in operation on the bottom while the other is being cleared of starfish.

The mops, according to scientists of the federal Fisheries Research Board, are effective in picking up starfish one-half inch in diameter and larger, and it is these sizes which are of most importance as oyster enemies. Smaller starfish can cause damage only to settled spat.

As a test of the efficiency of the mopping method, 1,000 marked starfish were set free on an area of about one-twentieth of an acre and mopping was carried out to secure data as to recovery. In two and one-half hours of mopping 50 per cent of the starfish were recovered. In 12 hours 72 per cent of the total were recaptured. In a similar experiment an additional 3,000 marked starfish showed a recovery of 86 per cent in 28 hours of mopping.

In addition to the starfish actually recaptured it is estimated a good number would be killed due to mechanical injury occasioned by towing the heavy mops.

Oysters are taken in Canada on both coasts. The Atlantic, Prince Edward Island, Nova Scotia and New Brunswick all produce oysters in considerable numbers. On the Pacific, British Columbia waters yield several species. Increased demand during recent months has brought a decided increase in Pacific oyster production but even yet the total Canadian production is not sufficient to meet all market demands.

A preliminary report on the fisheries of the Dominion for 1941 estimates the quantity of oysters caught and landed in that year at 59,197 barrels, with each barrel averaging 200 pounds capacity. This was an increase of 32,000 barrels over the previous year's catch.

No. 21. -- Food for the Allies.

Farm folk all across the Dominion have presented the Allied Nations the world over with a gift much more valuable than gold, and at the same time have given Hitler and his cohorts more reason to view the future with steadily mounting apprehension. This gift took the form of the heaviest potato crop Canada has had since 1934; in actual figures it amounted to 43,047,000 cwt. This is almost four million cwt. above the 1941 figure. Canada's farmers are doing their share!

Farmers and cold storage people in different parts of the country will no doubt adopt varying methods of storing this bumper crop. However, it is interesting to record that in a small Alberta town one enterprising business man has constructed the only known commercial, electrically operated storage plant for potatoes in Western Canada.

Looking rather like an over-sized mole hill, except for the projecting ventilators, the plant presents a very unassuming appearance from the highway. Inside, however, the concrete structure, over 175 feet long and 80 feet wide, has all the modern facilities for the storage of 100 carloads of potatoes.

Upon arrival at the plant, the potatoes are carried along on a conveyor belt from the delivery truck outside to the centre of the building where they move onto a second belt that runs the length of the plant. In this way they reach huge bins built up in sections to a height of over 16 feet, which have a capacity of two carloads each. From the bins the potatoes go through a machine which cleans, sizes and grades them. Damaged and odd shaped tubers are removed. After being sacked and weighed they pass on to the railroad cars.

Conditions in the plant are under careful supervision. An efficient ventilation system assures a complete circulation of air around the bins, and no moisture is allowed to collect that might start deterioration in the potatoes. The temperature is carefully controlled and maintained at a set level.

Farmers in the surrounding districts grow potatoes of specified variety on contract and may deliver directly to the plant from the field. The plant operator caters only to high class trade and was called upon to supply the Royal Train while on tour in 1939. Each year since starting, sales have doubled. Last year 60 cars came off the "assembly line", and this year twice that total is expected.

No. 22. -- Take Care of Your Clothes.

War conditions have already made it necessary for us to "take in our belts another notch", and now we're being asked to "stretch our clothing" as part of the national campaign for an early Allied victory. Taken literally, of course, it doesn't sound like a very sensible idea. But considered from the angle of clothes preservation it's a wise plan.

Right now you're busy packing away your summer shirts and sheers in winter storage closets. Take a few extra minutes to make certain they are guarded against moths and carpet beetles. Although these pests are most prevalent during the summer, they do considerable damage in heated buildings during the winter months. The larvae may develop in any place where lint and dust collect, such as, inverted lamp globes, radiators, furnace air shafts, floor cracks, behind baseboards, unemptied vacuum cleaners, and even in the mending basket. Thorough house cleaning is an effective prevention.

It is important that summer clothing should be put away clean. Washable articles should be washed and non-washable clothes dry-cleaned. If the clothes are only slightly soiled, they should be brushed thoroughly, careful attention being given to seams, and hung outdoors on a sunny day for a good airing.

Suits, jackets, dresses and such like should be placed on hangers with all buttons or fasteners in place to preserve the shape of the garments, and put in protective bags or moth-proof wardrobes, with moth crystals, balls, or flakes in the pockets. In addition, a cheesecloth bag containing moth balls, naphthalene or paradichloro-benzene in flake should be hung over the neck of the hanger. The garment bag or box should be tightly closed. Actually there is no such thing as a mothproof bag, carton, box, or other container, so long as there is the smallest pin hole or crack through which an insect can gain entrance.

Bathing suits or other clothes which do not require hangers should be cleaned, folded carefully, and either well wrapped in paper or packed in a close-fitting carton, box, or trunk. If any of the goods contain wool, fur, or other material of animal origin, which are most readily attacked by insects, moth crystals, balls, or flakes should be placed in the folds.

It is not going too far to suggest that during the ensuing twelve months, the extent of your personal well-being and happiness may be directly proportional to the general condition and ultimate life span of the clothes you are wearing now. Up to this time we in Canada have not experienced much difficulty with our purchases along this line. Practically all the goods on display in the shops now were made prior to any prohibitory regulations last Spring. Next year, however, orders placed in May and June of this year will be in, and will undoubtedly reflect the restrictions placed on the manufacturers. So be wise. Take care of the clothes you have.

Full information on the control of some common species of household insects, Circular 637, may be obtained by writing to Publicity and Extension Division, Dominion Department of Agriculture, Ottawa.

No. 23. -- Soybeans Profitable.

The largest crop of soybeans ever produced has been harvested in Canada this year. A large percentage of this crop will be used for vegetable oil, but a portion will be utilized in the grain rations for cows. Each year an increasing number of dairy farmers are adopting this practice, and at the same time including a small acreage of soybeans in their cropping plans.

Soybeans may be grown successfully over the greater part of the dairying districts. This annual crop fits into most rotations and is beneficial from the standpoint of its leguminous properties.

In feed value the soybean will produce more concentrated protein than any other crop. This is seen from the analysis of the mature seeds, which contain about 35 per cent protein and 18 per cent oil. In other words, about two and one-half pounds of seeds will contain one pound of protein. A crop containing such a high protein content is particularly valuable in balancing the high carbohydrate grains such as corn, oats, wheat and barley. Whole ground soybeans have replaced linseed meal in the grain ration of the dairy herd at the Experimental Station at Harrow, for several years with excellent results. Wherever this substitute has been tried similarly good results seem to be the rule.

Soybean oil meal is the soybeans with most of the oil extracted. This is a protein concentrate having a somewhat higher protein content than the whole beans. For some classes of livestock this feed is safer to use than the whole beans, but in the case of dairy cattle very satisfactory results have been obtained when the entire soybeans have been added to the grain mixture and the whole ground.

No. 24. -- Milkweed.

You've probably heard of the milkweed plant -- a sort of weed that makes a nuisance of itself by provocatively lifting its ignominious head among your flowers and nonchalantly mingling with your best oats and barley. You've pulled it up again and again, even burned it in the hope of eventually stamping it out. All to no avail. It insists upon a place in the limelight and you've almost given up hope of overcoming its stubborn persistence.

Well, here's a tip. Let it grow! Give it your special attention! Nurse it along with all the care and tenderness you would lavish on a prize petunia! Why? 'Cause there may be rubber in them thar''leaves!.

There are 125 species of milkweed, or Asclepiadacea, which is its nom de plume. They are mostly perennials, growing erect with thick deep roots and found in pastures and waste places. The young shoots of some species resemble asparagus and are occasionally cooked and eaten in the same way. Other varieties have an attractive flower and are grown for their beauty. Recent scientific discoveries have raised the milkweed from its mundane classification as weed and placed it in the honoured class of "economic plants" -- under present wartime conditions at least.

As its name implies, the milkweed contains a sticky, milky latex in its leaves and stalk. This is undergoing experimentation as a possible source of supply of usable rubber.

The seed pods yield a floss said to be the equal of kapok and superior to cork as a filler for life belts. Tests have shown that one pound of this fibre will float a 50 pound weight for 48 hours. It is warmer than wool and 6 times lighter. Think what that would mean when made into aviation flying suits. Both kapok and cork are almost improcurable now, so milkweed floss may have a tremendous and noble part to play as substitute in this game of war.

The stalk of the plant yields 3 different fibres, one a "bast" fibre containing 92 per cent cellulose that can be utilized in the making of paper, rayon and nitro-cellulose.

From the seed pods may be extracted 5 per cent latex and 5 per cent wax, and a fibre which could be turned to making paper.

The seeds give out a semi-drying oil used in the manufacture of paints and varnishes.

From these findings may be born a new type of dairying -- milking the milk-weed.

No. 25. -- Fishermen Punish Own Offenders.

Magdalen Island fishermen not only believe in conservation of the fisheries upon which they depend for their livelihood but they are ready and willing to do something about it if and when any of their number step out of line. Take, for instance, the action of one fishermen's co-operative group, backing up the fisheries law that all lobsters below a certain size limit must be returned to the water to "grow some more".

Of course, the size limit on lobsters is established in the first place in the fishermen's own interest. It is designed to make sure that the little fellows, not capable of bringing the fishermen much return anyway because of their small size, go back to sea to grow up and bring a better return another year when they reach legal size. This is in the fishermen's interest just as is the rule which requires the return to the water of any captured female lobster bearing eggs which mean many more lobsters on the fishing grounds in years to come and an assurance against the depletion of the fishery.

The Dominion Department of Fisheries designed the regulations and the government made the law and established penalties for any breach of the regulations. But the Magdalen co-operative have gone a step further. They passed a by-law to make sure that no member would go unpunished if he were a bit careless in his observance of the size limit. Under their new rule any member fisherman who lands two pounds of undersized lobsters in any one catch, in addition to facing prose-cution by fisheries officers for breach of the lobster regulations, will have ten pounds deducted from his total catch by the association itself when his account with the co-operative is made up. In other words, the delinquent fisherman will not only face a fine and confiscation but he will also face a penalty within his own group which will cost him the loss of the return from ten pounds of his catch.

This is indisputable evidence of the general approval with which this group accept the conservation size limit. It is evidence, too, that "co-operative" in this case does not just mean that the fishermen are banded together only for the advance-ment of their marketing interests but that they are also being co-operative in seeing that the law is observed. It proves that they realize wise restrictions in fishery operations are designed for the fishermen's own benefit and that they are ready to do something about it on their own initiative to see that the regulations are rigidly observed. Altogether it is a condition which makes officials feel that the Magdalen fishermen are really appreciative of the efforts put forth to make sure that lobster fishing continues "good" on Canadian grounds.

No. 26. -- Needle Rust.

When the needles of pine trees turn brown at the ends, giving the trees a drying appearance, it is because they are affected by needle blight. Although this blight is common to white pine, it may occur on other coniferous trees and is caused by over-drying or excess evaporation of moisture through the breathing pores of the needles. However, the injury is temporary, the tree, as a rule, recovering within a year. The branchlets bearing buds that will develop into next year's crop of needles are seldom killed. The injury may occur repeatedly on succeeding crops of foliage, but frequently the general occurrence of needle blight throughout any region is followed by a year or longer of comparative freedom from it.

Needle blight may be brought about by various circumstances. In seasons of severe drought, the roots of the trees may be unable to obtain sufficient moisture to replace that lost by evaporation through the leaves. During sudden extremes of high temperature with drying winds in late winter and early spring, the same condition may arise because the dormant rootlets are unable to take up water from the frozen ground. But there are other causes. Some trees are frequently unable to obtain their normal water supply on account of pavements and well-drained roads, or through the ground covering their roots being occupied by buildings, or roots may be rendered useless by injuries of many kinds. Trampling of the ground by shade-seeking cattle and human beings in pastures and parks creates unfavourable conditions for the roots.

Needle blight is easily distinguished from Blister Rust, the serious disease of white pine. Blister rust is a canker of the bark that kills entire branches of the trees and can be controlled only by elimination of wild and cultivated currant and gooseberry bushes from the vicinity of white pines.

No. 27. -- Moisture for Next Year's Garden.

For years the open plains area of the three prairie provinces have been noted as a "next Year Country". This bit of next-year philosophy has served the people well. During drought years it kept up the farmer's spirit of optimism, and in the better years it has caused him to think of the possibility of next year's drought. Its only danger lies in the fact that some farmers may be overly optimistic and forget that, although 1942 has been a wet season, 1943 may be dry.

This thought of preparedness for drought applies to the farm garden as well as to the field crop. Now is the time to prepare our garden for 1943. On the average farm garden that is level or slightly sloping, it is advisable to plan for next year by having an early prepared and well kept summer-fallow, so as to reduce the weed hazard and store a goodly portion of the summer rains.

But one should go further. Move the farm machinery on to the garden so that it will then be safe from damage by livestock, and will hold the drifting snow. Other forms of snow fences will be equally as effective. This drifted snow must not be allowed to run off during the spring thaw, so contour dykes of either soil or manure will help to hold this water until it can soak into the soil.

A small dugout will supply more water for the garden than one is inclined to imagine. For example, a dugout fifty feet wide by one hundred and nine feet long, holding four feet of water, will supply six inches of water for

a garden of one acre in extent. This represents a fair sized garden, and six inches of moisture added to the summer rain will assure sufficient moisture for surprisingly good growth. With the late harvest and the scarcity of farm help, it may not be feasible to do much work of this nature this season, but the first step in any endeavour is the realization that such work must be done sooner or later and to lay plans accordingly.

Too little credit is given to the role of shelter belts in the conservation of soil moisture. During the winter they hold deep drifts of snow; and in the summer they tend to act as a windbreak for the garden, and thus prevent excess evaporation. They also prevent wind damage to the growing plants. If a shelter belt has not already been started around the garden, now is the time to consider planting one. Write the Dominion Forestry Station, Indian Head, Saskatchewan, for full details about the tree planting policy.

No. 28. -- Save the Wax Crop.

Beeswax is an important product needed for war purposes, therefore all beekeepers are urged to save every particle produced. This is a call issued by the Department of Agriculture.

Every apiary will yield some wax. In large commercial yards the amount may be several hundreds of pounds annually. The wax from only a few colonies should not be wasted. Apart from its importance as a war product the price that must now be paid for comb foundation should be incentive enough to save all wax the bees may produce.

There is a definite amount of wax in every piece of comb and also in the cappings removed from the combs at extracting time. While good combs are too valuable to melt down for the wax they may contain there is always enough broken or discarded comb, brace or burr combs and cappings from which enough wax may be extracted to more than pay for the time and labour involved.

Wax as taken from the apiary always contains more or less impurities, so that some means must be employed to separate them. Two methods are in general use; one by heat from the sun, the other by artificial heat. The sun wax extractor is useful for rendering small pieces of comb as they are taken from the hives during the summer, and it may be used to extract the wax from small quantities of cappings. For large quantities, however, the most efficient method is first to melt the combs or cappings in boiling water and then to submit the molten mass to pressure. Presses for this purpose are available from dealers in apiary supplies. A large proportion of the wax can be secured from the melting alone by allowing the melted mass to cool. The wax being lighter than the water will rise to the surface and harden into a cake. This method, however, is wasteful.

There are a number of capping melters available which permits the melting of the cappings as they are pared from the combs at extracting time, but all beekeepers do not have one, therefore must postpone the rendering of these until a later date.

A good time to recover the wax crop is after the bees are all fed and packed away for the winter. Before starting on the cappings carefully inspect your stock of drawn comb, those that are broken or distorted and the cappings

should be consigned to the melting pot, so that all the surplus wax may be rendered at one time. Wax is important, it may be needed in the form of comb foundation in your own apiary next year, if not, it is needed elsewhere, therefore save but do not hoard it.

No. 29. -- Irish Moss.

War knocked Europe out of the Irish moss trade on this continent and that's a main reason why Canadian moss production, previously only a few thousand pounds, increased twenty-fold and more last year and from present signs is likely to go quite a bit higher in 1942.

There is market for the moss both in Canada and the United States, thanks to Nature for including in it a carbohydrate known as "gelose" which makes it useful as a clarifying agent in the oil and beer industries, as a stabilizer in some of the food industries, and for a number of other purposes. In pre-war years imports of Irish moss came to North America from Europe, though the United States had some production of its own.

Last year's Canadian harvest of Irish moss, much the greater part of it gathered in Prince Edward Island but some in Nova Scotia and a small quantity in New Brunswick, ran to 237,000 pounds, dried. The figure should be well above that in 1942, as indicated by one or two bits of fact as to the current year's operations. By the end of July two Prince Edward Island co-operative groups, working together, had already shipped several 25,000-pound carloads. An island commercial company was operating on a similar scale. Other island people, too, were harvesting moss. In several parts of Nova Scotia, principally in Antigonish and Yarmouth counties, substantial harvests were being gathered.

Prices obtained for moss from the 1942 crop showed more or less variation but in some cases, as reported to the Dominion Department of Fisheries by its local inspectors in the Maritimes, the dried product was bringing $25 a hundredweight. In late 1941 the price to the shipper averaged about $15 a hundredweight for dried but unbleached moss and about $20 for the bleached.

As already stated, Irish moss is used in the oil and beer industries and in food industries it serves such purposes as stabilizing chocolate milk and preventing the formation of ice crystals in ice cream. It has long been used in making puddings of the blanc mange type but, as a matter of fact, its nutritive value is low. It is used, too, as an ingredient of so-called water paints and textile plants employ it as a size and to thicken colours in calico printing. Soap makers make use of it because it produces a velvety lather. A moss extract is added to some leather dressings and shoe stains because it imparts a gloss. A perfumed solution of the moss is sometimes used as a hair fixative. The moss also has some therapeutic use, limited but common.

No. 30. — Canada Year Book.

The 1942 edition of the Canada Year Book is now available to the public. The Canada Year Book is the official statistical annual of the country and contains a thoroughly up-to-date account of the natural resources of the Dominion and their development, the history of the country, its institutions, its demography, the

different branches of production, trade, transportation, finance, education, etc. -- in brief, a comprehensive study within the limits of a single volume of the social and economic condition of the Dominion. This new edition has been thoroughly revised throughout, and includes in all its chapters the latest information available up to the date of going to press.

The 1942 Canada Year Book extends to over 1,000 pages, dealing with all phases of the national life and more especially with those susceptible of statistical measurement. A statistical summary of the progress of Canada is included in the introductory matter. This gives a picture in figures of the remarkable progress that the country has made since the first census of the Dominion was taken in 1871.

The special articles that are shown in this edition of the Year Book have been selected to illustrate the effects of the War on the Canadian economy and to show such changes and developments as have taken place to date. There are such special articles dealing with manufactures, external trade, prices, agriculture, forestry, mines and minerals, power, transportation, immigration. The important chapters on labour, public finance, currency and banking, and internal trade have also been directly related to the war effort and the special war chronology begun in the 1940 Year Book is brought up to date. Other important features that do not relate specifically to the war are also included.

Persons requiring the Year Book may obtain it from the King's Printer, Ottawa, as long as the supply lasts, at the price of $1.50 per copy; this covers merely the cost of paper, printing and binding. By a special concession, a limited number of paper-bound copies have been set aside for ministers of religion, bona fide students and school teachers, who may obtain such copies at the nominal price of 50 cents each but application for these special copies should be directed to the Dominion Statistician, Dominion Bureau of Statistics, Ottawa.

No. 31. -- Fish Tales.

Back in the days of good Queen Bess, people in England were required by law to eat fish 155 days of the year. Perhaps this edict was passed by Her Majesty on the premise that sea food was particularly conducive to the development of great mental powers. We can only wonder. Four hundred years later we too, descendants of many of those fish-eating Britons, are being prevailed upon to increase our annual consumption of marine delicacies. We're more than willing to oblige in an emergency like the present, but we do like to know what it is we're eating.

For instance. The other day we were thumbing through the pages of a preliminary report on the fisheries of our Dominion, released by the Bureau of Statistics. We found that the leading catches, in terms of production and marketed value were salmon, cod, herring, lobsters and sardines, all familiar household names. Then quite suddenly we came upon a list of commercial fishes that had us guessing. Perhaps the fact that we were born and brought up on the Prairies had something to do with our complete ignorance as to the general appearance of a quahaug, and the identification of winkles, skates and flounders. And don't tell us alewives and catfish are actually edible!

By this time our imagination was at work and doing very well by itself too. Perhaps that unidentified dish we had eaten in a downtown cafeteria the day before had been a fresh water drum, or worse yet, a witch, sliced and fried in butter! It was high time we got out the encyclopedia and settled both our mind and our stomach.

This, to our relief, is what we discovered. First of all, a quahaug isn't a pig with dorsal fins, but a shell fish closely resembling the clam. In 1941 the marketed value of this catch from Canadian waters totalled in the neighbourhood of $15,000. Winkles, skates and flounders bear no relation whatsoever to the old anecdote of Dickens. Winkles we found to be a variety of shell fish particularly destructive to oysters, and skates and founders species of flat fish. Altogether their value in 1941 when marketed amounted to about $22,000.

The name alewives is particularly misleading, conjuring up pictures of old time taverns and barmaids. Actually alewives are relatives of herring and abound in Lake Ontario. Catfish, known variously as horned pouts, mud cats, stone cats and mad toms, are as repulsive as their many aliases. Usually found in fresh water, they were credited with a marketed value of almost $18,000 in 1941. Witches, however, gaves us a little difficulty. Several books of knowledge failed to give any mention of a fish by that name and we were beginning to wonder if the Fisheries and Animal Products Branch hadn't somehow gotten Hallowe'en mixed in with their report. The chief of the branch explained that it is a comparatively new classification, having before been included with flounders, brill and plaice, of which they are apparently a relative. At any rate there were 7,000 caught last year, most of them off the Atlantic coast, realizing a value of $10,000. The total marketed value of those used fresh and filleted amounted to over $37,500.

So much for tales of fish tails.