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C O N T E N T S

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Editor.

No. 32. -- Canadian Footwear

Are any of the folk around home able to recall the days when imported footwear were the vogue? The smart young man who sat with knees crossed and lifted his foot fairly high to show the company that he was equipped with an elegant pair of "Boston" shoes? Most men wore boots. Some of them were buttoned up the side, others were elastic-sided.

Then there were the patent leather boots and shoes. The parade to church on Sunday was their great day. They shone resplendent on the walk down the aisles and sometimes they squeaked. That was all right for it drew attention. The last of the old politicians to wear them regularly was the Hon. Robert Rogers, who was a kind of Beau Brummel in his dressing.

A great lady once long ago arrived at the railway station in Ottawa. She was tall anyway, but she appeared the taller because she wore very high heeled shoes which came to a point no broader than a nickel and she stepped daintily to the carriage drawn by a team of English hackneys that took her to Rideau Hall. The young ladies in the crowd gazed admiringly and confided to one another that the shoes must have come from Paris. No doubt they did, because even until war came upon us, many Canadian ladies were buying shoes imported from France.

Times have changed, however. The pointed toe that made for bunions is almost gone, boots are not so often seen and are worn by ladies almost never. Mainly too we wear shoes made in Canada and leather footwear has become one of the major industries.

Last year the industry produced more leather footwear than ever before, amounting to 31,522,000 pairs. This was an increase of 22 per cent over the previous year. Quebec and Ontario together produce the bulk of the Canadian output.

No. 33. -- Slates at School Again

When dad and mother went to school they did not use paper and pencil to work out those difficult problems teacher gave them to solve. No, they used school writing slates with chalk or special pencils to write with. Although pencil and paper have definitely replaced the writing slate in most of the larger schools there are many of them still in use throughout the country. In fact some authorities say that in many country schools slates are being more widely used.

Canada does not produce slate to any great extent, therefore imports are necessarily made to cover the demand. In normal times before the outbreak of war this equipment came mainly from the United States with smaller quantities from the United Kingdom, Germany, Italy, Portugal, France and Czechoslovakia.

Slate has many other uses and in European countries it is utilized as a roofing material for buildings. Although there are no doubt some buildings in Canada with slate roofs, wooden and composition shingles are more widely used. Slate is also utilized in the manufacture of billiard tables, cisterns and mantel pieces.

The best slates are said to be produced in North Wales, but some also come from Ireland, Scotland, the South of England and most other countries of Europe. Most of the slate is grey-black or blue-black, but some bright colours are obtainable, notably green and red and even mottled colours.

No. 34. -- Canadian Carpets

The day is definitely gone when the young newleyweds, furnishing their new home, would have none other than an imported carpet to cover the floor. Nowadays, by far the larger proportion of the carpets sold in Canada are manufactured in the Dominion. The growth in the Canadian woollen carpet industry of late years is illustrated by the fact that in 1933 the output was factory valued at about $1,900,000, while by 1940 the total was more than $4,500,000. Axminsters were most popular if value of production may be taken as an indication of taste, with Wiltons in second place.

The history of carpets is very interesting. The earliest mention dates back to remote antiquity. Carpets, both plain and figured were used in Homeric times while Pliny refers to the Babylonians as skilful weavers of cloths of divers colours. In many parts of the East, among the Assyrians, Persians, Arabs, Chinese and Indians, the manufacture of carpets was carried on from very early times.

The conquests of Alexander the Great familiarized the western world with the products of the Eastern looms. Persian and other carpets were imported to Greece and later, through the Venetians introduced into Italy. Subsequently, Oriental carpets were brought into Spain by the Moors, where Roman conquests tended to spread the knowledge of carpet manufactures still further over Europe. Mention should be made of the carpet or tapestry of Baldachine, so called from an ancient name of Bagdad, which was woven with gold and silver threads.

It was through the Crusaders that England came into touch with the East and its carpets, some of which were no doubt brought back by returning knights; but it is through Spain that they are first known to have come, Queen Eleanor of Castile introducing them on her marriage to Edward I. Carpets were used in the time of Henry VIII and even more extensively in the reign of Elizabeth.

The manufacture of carpets was introduced from Persia into France about the beginning of the 17th century. In 1701 a charter was granted to the weavers of Wilton and Axminster, a proof that the industry had already made a start in England. As time went on the trade developed upon parallel lines in the more industrially organized countries of Europe, spreading to the United States and Canada.

No. 35. -- Products from Casein

Most of us, especially those who have lived on the farm, have a pretty fair idea what casein is, and that it is used in the making of a great many things in daily use. For example, buttons. However, we'd better say exactly what casein is, for those whose knowledge of it is somewhat vague.

Casein is the most important of three protein compounds of milk and on the addition of acids or rennet the casein is precipitated and the milk is said to have curdled. The natural souring of milk which has been kept long is due to the formation of lactic acid. Rennet is used to coagulate casein in the preparation of cheese which consists of the casein and the fat contained in milk. The Latin word for cheese is caseus.

The industrial uses of casein are many and varied and its preparation is carried out on a large scale. Dried milk is mainly casein; when it is made from skimmed milk it contains the natural sugar of the milk. There are several methods of making dried milk. One is by leading milk on to hot revolving drums and scraping off the dried milk.

And now for some of the other products. Mothers and grandmothers will tell you that the piano keys of their youth were made of ivory which came mainly from the tusks of African elephants. These keys became yellow with time and they made the pianos quite costly. They were eventually replaced by celluloid keys which kept their colour much longer but those made from casein last still longer, we are told. And then they are cheaper.

Many other plastic substances used as substitutes for horn, ivory and celluloid, now made from casein possess the great advantage over celluloid that they are non-inflammable. This is worth noting when we learn that casein now makes dress textiles, simulating wool, cotton and silk, as well as felt hats and not forgetting textile waterproof fabrics.

The list is enormous: non-inflammable photographic films, surgical bandages, paper coating, knife handles, cigarette holders and cases, pipe stems that look like amber, fountain pens of brilliant colours, translucent lamp shades, costume jewellery, bracelets, watch bands, jewelled brooches, shoe horns, combs, vanity cases, tooth brush handles, bottle tops, backs and handles for mirrors that simulate tortoise shell, handles for toasters, other electrical parts, dominoes, chess men, dice, billiard balls, wall tile, door knobs, coating for decorative papers, picture frames, clock cases, accessories for automobile interiors, radio cabinets. The list seems to be unending. These are only some that come to mind as one looks around.

Statistics compiled by the Dominion Bureau of Statistics show that more than a million and one-quarter pounds of casein was manufactured in Canada during 1941. In 1936 the production was less than one million pounds.

No. 36. -- Clams in the War Picture

Inanimate resources as well as humans may sometimes find themselves called up for war service and that's exactly what happened to Massett clam beach on Graham Island, B.C., which has this year been adding to national food production after lying idle and unexploited for some time. This particular 'call-up' wasn't official, it came from a fishermen's co-operative and not from government Powers that Be, but it did the trick and added more than half a million tins of canned razor clams to Canadian food output in a few weeks of spring and summer. That pack was not so very much smaller than British Columbia's total production of canned clams in the preceding year, and a pretty good return from a natural resource which had been lying unproductive.

Formation of the fishermen's organization which did the job, and is planning to continue operations in future clam seasons, was an outgrowth of the special educational program among fishermen which is sponsored by the Dominion Department of Fisheries in areas where the fisheries are under federal administration. About 260 fishermen joined in organizing the co-operative that they might restore the once-prosperous clam industry at Massett, where the beach is "one of the largest and finest clam beaches in North America", and, at the same time, might create a useful activity for times of the year when other fishing operations are on a reduced scale.

The co-operative made its plans in good time and was able to get work under way as soon as conditions were suitable. The members went to work in the new enterprise as soon as canning could begin, some of them digging clams, some running the cannery, where the wheels had been set in motion again under arrangements made by the association with the former operators. In wages, they shared among themselves

in the next two or three months something more than $18,000. They turned out between ten and twelve thousand cases of canned clams to help keep up national food supplies at a time when increased production is essential, and the co-operative had a modest profit to its credit, too, after all wages and other costs had been met.

No. 37. -- Increased Live Stock on Farms

The preliminary figures of the annual survey of the Dominion Bureau of Statistics of live stock and poultry on Canadian farms as at June 1, 1942, as compared with the preliminary figures of the 1941 census, show all-round increases in numbers, some of them substantial, and two of them hens and chickens, the highest ever recorded on Canadian farms.

The number of all species of live stock and poultry at June 1, 1942, totalled 19,230,000, compared with 17,546,000 in 1941, an increase of 1,684,000.

The other highest recorded number on Canadian farms is 68,105,800 hens and chickens, compared with 58,864,389, or an increase of 15.7 per cent on 1941. The number of turkeys also (4,214,500) shows the very substantial increase of 31.5 per cent on the 3,203,804 on farms in 1941.

Cattle increased 5.1 per cent to 8,944,700 in 1942 from 8,511,346 in 1941. This includes 3,680,500 milk cows as against 3,587,698 in 1941. Very little change was indicated in the numbers of cattle in the five Eastern Provinces, but in the Prairie Provinces, the increases were 9.2 per cent in Alberta; 12.0 per cent in Saskatchewan, and 16.8 per cent in Manitoba.

There was a substantial gain of 11.6 per cent in the number of sheep on farms, namely, 3,194,900 as compared with 2,862,495 reported in 1941. The increase was particularly marked in the three Prairie Provinces. Increases of a less important nature were shown for all the other provinces.

Hogs increased by 17 per cent from 6,093,000 in 1941 to 7,133,000 in 1942.

The number of horses on farms was 2,816,080 in 1942 as against 2,739,301 in 1941.

No. 38. -- Prairie Gardens in Winter

One arrival that can be definitely counted on every year in the Prairie Provinces is winter. It takes over more than its one-quarter share of the twelve months. The prolonged sojourn of winter on the open plains induces home-makers to give special attention in selecting ornamentals that will give cheery colours to the landscape during the leisurely dormant season.

The plantations at the Dominion Experimental Station at Morden, Man., are arranged so that every vista exhibits some bright touches even in the depth of winter. Some of the subjects that please are here mentioned.

Conifers that retain their leaves are spruce, pines, firs, junipers, arbor-vitae, and yews. Only two broadleaf evergreens have been dependable - the dwarf spindle-bush and the rose daphne.

Trees and shrubs with showy bark include willows, Amur maple, pembina and other viburnums, Swedish basswood, birches, Amur cherry, dogwoods, Chinese currant, tamarisk, Betty Bland rose, and strains of crab apples and cherries.

Woody ornamentals that carry beauty of berry and fruit into the new year make up a considerable group. Among those esteemed are Russian sandthorn or sea buckthorn, rugosa rose, Altai rose, prairie rose, hawthorns, pembinas and other viburnums, wahoo, cherry prinsepia, bittersweet, climbing honeysuckle, Siberian clematis, riverbank grape, sumac, Amur honeysuckle, Dahurian buckthorn, Manchurian crab apple, Siberian crab apple, Buffaloberry, silverberry and Russian-olive.

Some of these fruits gradually fade in numbers as groups of birds glide in and partake of what is still offered by the shrubberies. In this class are buffaloberry, haws, apples, honeysuckle, roses, silverberries, and Russian-olive. Grouse, grosbeaks, and Bohemian waxwings are winter birds that come to dine and to delight the public. Those birds are considered as approving friends. On the contrary, robins and cedar waxwings are looked upon somewhat as bold poachers, when they rob ruthlessly the mountain-ash and elders of their showy bright berries in September.

Dwellers on the fertile prairies who plan further landscape planting are invited to pay due heed to plant virtues, so that they shall possess for themselves a garden even in the white winter.

No. 39. -- Here is a Real Story

"Grande Prairie apples! Peace River oranges," droned a jesting newsy on the transcontinental train 33 years ago last spring when some of the early settlers were heading for the Peace River District. Today the joke is on that newsy, for big yellow and red-checked apples have been produced at Beaverlodge, whither those same settlers were heading a generation since. Beaverlodge is 420 miles north of the 49th parallel of latitude and along the present route of the Alaska highway.

So far as is known, the first apples produced in the Peace River region were grown by a Jersey Island woman, the late Mrs. Mary Thompson, in 1921. They were crabapples. It remained, however, for the Dominion Experimental Station to grow the first full-sized apples, which it did in 1931 when a tree of the Hibernal variety planted in 1923, bore two fruits. The next year it bore six fruits and since than has missed only two years. This year it broke under a weight of 67 pounds of well formed fruit averaging about three inches in diameter. Simbrisk also bore ripe fruit and so did a Morden seedling which was considered valuable.

The first planting of apples and crabs was made on the Substation by W.D. Albright, Superintendent at the Beaverlodge Station in 1916 but none ever bore fruit. Other plantings were made and some fruit resulted for the first time in 1929, and the yield since has been gradually increasing. In 1942 about a dozen varieties and strains bore standard-sized apples and several dozen bore good crabs, including the hardy Osman and the delicious Sylvia, Trail, Piotosh, Whitney and numerous others. The year's crop of apples and crabs totalled three-quarters of a ton.

All this fruit has been produced on unsprayed trees, unprotected except by windbreaks. Apart from clean cultivation the only attention they have received is fencing against rabbits and a low autumn mounding with several inches of soil around the trunk to turn the mice.

Sunscald is the worst enemy, for during chinook weather the sun warms the tissue

on the south side of the trunk, that portion loses its dormancy and new growth may be induced. Then a cold snap following the chinook kills a portion of the trunk. If the damage is sufficiently extensive, the whole tree may succumb.

The planting of large fruits on the Beaverlodge Station is becoming quite extensive and continues to expand. While the trend has been to apples, other fruits have not been neglected. Some sixty-five varieties of plums and cherries are on test. Even about fifteen kinds of pears and thirteen of apricots are being grown. Many of these, however, are small trees as yet but should soon begin bearing, at which time the Station's fruit production may increase enormously.

Great progress has been and still is being made in the development of hardy fruits, and though the area perhaps has no possibility of being of commercial significance in the production of the large fruits, still domestically, it is sure to develop. Think of the satisfaction it would give people to be able to eat pies made from apples grown in their own back yard, or jelly from their home-produced crabapples, and no crab makes finer jelly than some that are now grown at Beaverlodge.

Far beyond the Peace, apples have been grown. For years, small-sized crabs ripened at Fort Resolution on the shores of Great Slave Lake, 526 miles almost due north of Edmonton. Small seedlings have also ripened at Fort Smith in the Slave River.

Russia is not the only country developing a northern horticulture.

No. 40. -- Mother Nature Takes a Hand

Old Mother Nature can be an impatient sort of person sometimes not satisfied with things as they are and determined to hurry matters along. One such instance occurred recently in Nova Scotia when Nature took a hand in fish planting and forced the unscheduled planting of more than 292,000 speckled trout and salmon to enrich the fishery resources of the province.

Charged with the duty of helping to maintain the fishery stocks of the provinces where the fisheries are under federal jurisdiction, the fish culture branch of the Dominion Department of Fisheries annually plants many hundreds of thousands of little fish in various selected waters. To rear and care for the little fish, potential wealth for Canada's fisheries, the department maintains hatcheries at selected points. One such is located in the Cobequid area, Nova Scotia, and it was here that Nature took a hand in the proceedings. Heavy rains, the greatest in 50 years, broke over the area and debris piled up against the hatchery dam. Water continued to rise and downstream came more flotsam. Finally the spillways plugged and a washout occurred at the west end of the dam carrying away some 90 feet of the hatchery intake pipe.

This meant one thing - no water for the hatchery retaining ponds. All fish in the ponds had to be distributed at once. Nature demanded that, if they were to be saved. So it was with the forces of Nature in control, 292,000 speckled trout and salmon went into Wallace River and River Phillip. The planting was unplanned and unscheduled, but the results will be the same - increased fishery resources in the areas concerned.

No. 41 -- Treating Eggs for Shipment

Eggs are one of the most important items on Canada's food front. Before the war there was a small market for Canadian eggs in the United Kingdom, but after the fall of Denmark, Holland and Norway the demand for Canadian produce grew quickly. Shipments were made at first at ordinary temperatures without refrigeration. When the convoy system was put into operation losses due to spoilage were greatly increased because of the longer shipping period. Investigations into problems of preservation of shell eggs under these conditions were undertaken in the laboratories of the National Research Council.

A number of methods for treating shell eggs were tried, the most successful from a commercial standpoint being the packing of oil-dipped eggs in sealed egg-case liner bags. Although experiments showed that the amount of spoilage was primarily dependent upon storage conditions of temperature and humidity there were also indications that greater care in handling eggs would help in cutting down losses. Both producers and the trade could assist in reducing avoidable losses by adhering strictly to recognized sanitary practices when handling eggs.

At the present time most of the eggs shipped overseas are in the dried form. The National Research Council is making an exhaustive study on the quality of dried eggs and at the same time conducting tests on samples taken from all overseas shipments. Already, suggested modifications in processing have been adopted by industry and have resulted in a much improved product.

No. 42. -- Subsoil Important

Little attention is often paid to the importance of the subsoil in relation to crop production, and the success or failure in growing a crop is usually attributed to the state of fertility of the surface soil alone.

The most important role of the subsoil in crop production is to provide room for root development and to regulate the supply of moisture and plant food. Most of the ordinary farm crops thrive best on soils having a deep, friable, well-drained subsoil. Such subsoils provide room for good development, and make available greater feeding surfaces for the growing plant.

Conditions which most frequently interfere with this root development are shallow soils with a very thin subsoil over bed rock or with compact and heavy subsoils. Other unfavourable growing conditions are often associated with these shallow soils. The compacted condition in the subsoil restricts the downward penetration of water, and as a result, such soils in Eastern Canada often have a cold and wet subsoil over a considerable part of the season, while during prolonged dry periods of the season, they may be extremely dry. In Western Canada, such soils tend to be droughty, and in addition, often contain alkali salts which are harmful in crop production.

All crops do not react the same to similar subsoil conditions. Some crops under natural conditions have a deep root system, while others have not; some crops are deep feeders, some are not; some crops will tolerate an acid subsoil, others will not; and some crops require a warm well-drained subsoil, others thrive just as well on soils having a cool, wet subsoil. The building up and the maintenance of the fertility in the surface soil will not necessarily assure successful crop production, but that the nature of the subsoil and the characteristics of the plants must be considered as well, in order to obtain satisfactory results.

No. 43. -- Jute and Cotton Grain Bags

Any farmer who has empty bags, particularly of the larger size, suitable for holding dried brewers' grains, distillers dried grains, bran, shorts or other bulky products, is urged by the Used Goods Administrator to return them without delay to grain dealers or bag dealers in the best possible condition.

There is a shortage of material from which these jute bags are made. The products which normally go into bags of the kind mentioned are used for feeding live stock -- and are being used to a greater extent these days due to the heavier demand for meat and dairy products.

New bags are only being supplied in limited quantities and if the distribution of feed products, of brewers, distillers and mills is to be maintained it is essential that used bags be kept in circulation -- that is to return them as soon as they are empty.

The normal supply of jute just isn't coming through from India due to the fact that more ships are being used to take care of the more pressing needs of the fighting forces.

Farmers will be helping themselves and the war effort by avoiding delay in returning all bags whether jute or cotton to grain dealers, bag dealers or licensed peddlers. Bags are an important item in Agriculture. Take care of them -- don't damage them -- and keep them moving into the trade.

No. 44. -- Review of Farm Policy

In a review of farm policy and achievement, Hon. J. G, Gardiner in a recent radio address given under the auspices of the Canadian Farm Forum, gave some suggestions of what might be expected of Canadian farmers during the fourth year of the war. On one side, he said, there was reduced labour for which higher wages would have to be paid. On the other side, there was more breeding stock of every kind, greatly increased feed supplies, a guarantee of at least as high a price for every product in the next twelve months and higher for most, as in the past twelve months, and a guarantee that however much meat, dairy, or poultry produce that could be produced in the fourth year of the war would be needed.

It was proposed that every beef animal, for which the farmer had the labour and the feed to finish, would be fed until it had eaten the last pound of grain which would put beef on it profitably, and that the number of animals available for future feeding would be increased. It was proposed that there should be an increase of at least 25 per cent of sows on the farm. If that were to be done, each farmer would require to take stock of his labour and his feed, and plan to produce all the pigs he could.

Cheesemakers would be asked not to let up on production and send it higher. Farmers would be asked to produce more milk, buttermakers to produce at least 20 million pounds more butter, and poultrymen to produce more eggs and poultry than in 1942.

It was not suggested that those who specialized because of local conditions should change from one product to another. The Government's long-time policy was that if a farmer found something best for his to do in times of peace and considered

it best for him when the war was over, he must not allow the war to drive him from it. Do it now and do it more abundantly. The only exception to that injunction was that farmers who produce wheat have been asked to become feeders or producers of feed grain. There would appear to be every reason at the present time why western farmers should seed about the same acreage to coarse grains as in 1942. If there was any change, it should be from wheat to oil-producing crops such as flax. An annual conference of representatives of provincial agricultural departments and farm organizations was to be called to lay out a program for each province.

No. 45. -- What Mica Gives Us

The place of Mica in Canada's war effort is important, for the kind of mica we get in the Dominion has a superiority for certain equipment. It is Amber Mica, and is found mainly in Canada and Madagascar.

The micas comprise a group of minerals which readily split up into thin flakes. They are flexible and elastic. They have a pearly lustre and in colour range from black to brown, violet, yellow and green. There is a colourless mica. Muscovite, or white mica, although widely distributed, has not proved so valuable commercially. It may be obtained in plates two feet in diameter, perfectly transparent.

Sheet mica was formerly used for windows and is now employed for lamp chimneys, stoves, sound diaphragms and as an insulator in electrical apparatus. Ground mica is used in the manufacture of wall papers, as a lubricant in combination with grease and oil, as an absorbent for glycerine in the manufacture of dynamite and in the roofing and rubber trades.

It will be at once evident, therefore, how important mica, especially amber mica, has become in Canada's and the Allied war industries, to mention only one thing -- heavy-duty aviation spark plugs.

The main Canadian production of amber mica is located within one hundred miles of the City of Ottawa. Mark the great growth during war years. In 1938 it was 519 tons; in 1941 it was 1,743 tons, or to be more exact, 1,950,219 pounds. That includes all grades, of course.

No. 46. -- Milk for the Armed Forces

We have not heard very much lately about the production of concentrated milk, yet it has a bearing upon our cheese and butter production. But it does far more than that. It shows how Canada is helping in the war effort with good milk for our armed forces, for our Allies and to assist the Red Cross in carrying necessary food to those unfortunate people who otherwise could not possibly get it.

Here is what the records say. During the twelve months ending September 1942 concentrated whole milk production amounted to 211 million pounds. By-products are not included in this. The production during the twelve months ending September 1939, the month when Canada entered the war, was about 141 million pounds, an increase of about 70 million pounds.

War necessities have been the cause of this huge increase. Now, millions of pounds don't mean very much to us directly, but it will be made clearer to say that

the increase means six or seven pounds more in a year for every man, woman and child in the Dominion. From that point one can go on figuring in all sorts of interesting ways.

Perhaps one example of what this concentrated milk is doing will be helpful in understanding what this means to our own Commonwealth troops, apart from the help it has been to others. Canada has sent an immense quantity of food to Sir Archibald Wavell's forces in the Middle East. In one huge consignment at least, the largest item of food was oatmeal -- oatmeal to make porridge.

Porridge without milk is not nearly so palatable as it is with good rich milk, so along with that supply of oatmeal there was sent a great quantity of canned milk, so that the cooks have been able to hand out to their men a bowl of porridge just as good as if they had gotten it at home.

The incident brings the reflection that, before condensed milk came into being the fighting forces must have been badly off for milk for their porridge, their tea and their coffee. The first condensed milk that had any great vogue came from Switzerland, but in those days canning had not reached the perfection it has now and to preserve it the milk had to be very much sweetened. It was used especially for baby food.

No. 47. -- Canadian Flour in Mozambique

What will no doubt be a very interesting bit of information to the Canadian farmers, especially those on the Prairies, is contained in one of the official publications of the Department of Trade and Commerce. It is contained in a report about the Colony of Mozambique in Portuguese East Africa. It is about flour.

Under normal circumstances, by far the greater proportion of the importations of flour to that country come from Australia, with lesser quantities from Canada, British India and the United States.

Australian flour enjoys a preference among bakers, mainly because it is normally quoted at only about two-thirds the price of Canadian top patent. However, even though machine mixers are used, there is a preference also for the easier working qualities of Australian flour, because a reduction of mixing time represents a saving of electricity, which is expensive. The bakers appreciate that a blend of the two flours gives better results than Australian alone, and they favour an admixture of 10 to 15 per cent Canadian flour, a proportion which varies with conditions of price, the quality of each particular shipment and according to the personal idiosyncracies of the user.

One baker stated he would be glad to use up to 50 per cent Canadian flour were it not so expensive, and flour importers state that on occasion, when price has permitted, this percentage has been reached in common practice. Another baker contended that bread must have Australian flour to give it flavour, it being his idea that Canadian flour has been processed too much and has consequently lost flavour. This opinion is presumably associated with the fact that he is accustomed to the flavour of bread made mainly from Australian flour.

The normal difference in the prices of the two flours is upwards of $1 per 100 pounds, the Canadian product averaging about $3 to $3.25 per bag and the Australian about $2 to $2.50 to the baker. The percentage difference in price,

amounting as it does to as much as 50 per cent, is thus marked, and the attitude of the bakers is understandable. Inquiries as to the mark-up over the duty-paid price indicate that not only is Australian flour cheaper, c.i.f., but importers sometimes take a profit as high as 45 cents per 100 pounds on Canadian flour. They state that they have to do this, as they can sell only twenty to thirty bags at a time and must therefore have a wider margin than on Australian flour of which they sell about eight times as much.

Several importers of Canadian flour have experimented by purchasing lower grades than top patent in an effort to supply a cheaper quality in view of the current absence of Australian flour. The results have not been very helpful in that the bakers report that this lower-grade flour is not as good as the top patent which they have been using. Obviously bakers have not made any comparison between Australian flour and the lower-grade Canadian flour but have compared the latter only with the best Canadian flour. In short they are quite convinced that the only Canadian flour of interest to them is the best.

No. 48. -- Radio in Public Schools -- 1

Various Provincial Departments of Education in Canada have, for a long time, displayed a keen interest in, and made much use of broadcasting to schools. Experiments started in Manitoba as early as 1925, Nova Scotia in 1928 and Saskatchewan in 1931. The Nova Scotia Department of Education was the first to establish a planned series of school broadcasts (1928-29) which have continued ever since, and have been developed and integrated with the school curriculum of that Province. Developments in other provinces have come at later periods.

In the special use of radio in classrooms, British Columbia and Nova Scotia have been the pioneers. In Nova Scotia from 1928 to 1937 the Department of Education conducted, every school year, a series of two-hour broadcasts on Fridays which were, in the main, on supplementary subjects. In 1937 the series was changed to include lessons on the prescribed course of study as well as supplementary broadcasts. It is estimated that 150 schools in Nova Scotia are now equipped with receiving sets. Schools in New Brunswick and Prince Edward Island as well as a large adult audience in the Maritimes listen to and use these Nova Scotia programs. The schedule of broadcasts for the year is published in the Provincial Journal of Education and supplementary bulletins are also issued from time to time. These programs are carried on the CBC Maritime network.

In British Columbia broadcasting to schools started in November 1936, with an experiment in music appreciation sponsored by the Okanagan Valley Teachers' Association. As a result, the Department of Education in the following year made a grant for a series of experimental programs broadcast in cooperation with the CBC. In 1938 these broadcasts were carried on the British Columbia network and have become an established educational feature with five half-hour programs a week in the school year.

In 1940 a Director of School Broadcasts was appointed to supervise the work in cooperation with the Committee for Radio in Schools, including representatives of the Department of Education, the teachers and the CBC. Between November 1936 and November 1941, the number of British Columbia schools equipped with sets has increased from 26 to 545. Furthermore, there is a remarkable cooperation with people across the border, there being actually 150 classrooms in Bellingham, Washington, U.S.A. now using broadcasts.

The parent-teacher organization of the Province also circulates details of the programs to its teacher members. Apart from their immediate use in schools they are invaluable to invalid children and children in isolated districts taking their schooling by correspondence courses. A mimeographed teachers bulletin is circulated twice a year by the Department, giving an outline of the courses and suggestions for their classroom use.

No. 49. -- Radio in Public Schools -- 2

During 1940-41 the CBC extended three of the school broadcasts from British Columbia to its western network so that they could be heard in schools in the Prairie Provinces. At a meeting of educators from the four western province that winter, it was decided that for the year 1941-42 the four provinces would cooperate to provide two programs a week, one in general music and the other a library program, originating alternately from Vancouver and Winnipeg. No complete survey has been made of the number of schools using these programs in the classroom.

In the Province of Quebec a regular series of broadcasts to French-speaking classes was carried over the French network in the season 1941-42 under the name of"Radio College". These were educational broadcasts with no direct connection with any school curriculum but were designed for supplementary use in high-school classes. This venture was started entirely through the initiative of the French regional offices of the CBC and specialists in education acted as advisers. The response to this series by Quebec schools was most encouraging although it is not yet known how many schools are equipped with radio-receiving facilities to make use of the broadcasts. Three schools that were well equipped and used the programs consistently were chosen as experimental centres for the purpose of evaluation of the series.

The Ontario Department of Education has not yet made a comparable use of radio in schools. The Ontario Education Association has, however, recently shown a keen interest in possibilities of broadcast material for schools and is considering ways in which a program series might be designed to supplement the work of the teachers.

During the past year the Canadian Council of Education for Citizenship presented on the CBC network a national series of six programs which dramatized the lives of great Canadian statesmen. These were presented in school hours as a means of portraying the outstanding personalities of the country in which school children were its "citizens-in-the-making". The CBC also presented on its national network two of the five weekly broadcasts in the School of the Air of the Americas. These programs were also available in school hours.

No. 50. -- Three Cents Worth of Morale

If there's one thing the boys in the forces pray for more than to have a crack at the Hun, it's to get a letter from Mother and Father or the girl friend back home. As a gloom chaser and morale builder, mail from home can't be topped.

The safe and speedy delivery of this mail to and from the boys in uniform, no matter where they may be, is the immense task confronting the postal authorities. Shipping space is a vital consideration. To make the most of the cargo space available and to speed up delivery, the new airgraph letter, or "V ...- mail" as it is sometimes called, has come into recent use.

Your friend in uniform writes you a letter on a V ...- mail letter sheet, about the size of standard stationery. This is photographed on what is known as microfilm and reduced in size to about one-fourth of an inch square. The letter now weighs a mere one hundredth of what it did originally, yet it is complete down to the last period. From his distant outpost, the letter along with thousands of others, is loaded on a fast clipper ship and flown to America. On reaching Canada it is "blown up" to readable size, and mailed to you. Of course, nothing may be enclosed in the letter, no clippings, money, or pressed flowers. A photostatic copy of a $5 bill wouldn't be of much use, either here or overseas.

Some idea of the tremendous saving on cargo space made by this method of mailing may be received from the fact that 85,000 letters weigh approximately a ton, whereas the same number of V ...- mail letters weigh only about 20 pounds. Officials handling the mail predict that before long virtually all overseas mail to the armed forces will be sent via the microfilm method.

Although V ...- mail is comparatively new on this side of the Atlantic, it is by no means an overnight development. In April, 1941 England employed a similar system in solving the problem of getting mail to and from the boys in the Near East. This was gradually expanded until now it knits together the entire British Empire.

In addition to mail, millions of words of famous literary works have been reproduced on microfilm in Britain and other war-torn nations to preserve them for posterity. Precious volumes from the British Museum have been handled in this way and stored in bomb-proof vaults, safe from the "master-race of Aryans" who would strip the world of all its culture of the ages.

The valuable records of the last Canadian Census in 1941 have been photographed in much the same manner, and the original bulky bundles of statistics have been eliminated. In comparison with old methods, the ease and facility of a filing system of this type can be readily understood.

Remember, wars have been lost and won on morale, and faithful correspondents among the folks back home do a great deal to keep the men at the front happy. How about putting in your three cents worth?

No. 51. -- The Telephone and the War Effort

It only requires a moment of thought to realize how important the telephone is in Canada's war effort and the need to conserve its use so far as we can.

Indeed the Bell Telephone Company has drawn this matter to the attention of the Canadian public, for it is a fact that a great many people do their visiting over the telephone instead of putting on hat and coat and footing it to the neighbour's home. Here is what the Bell Telephone says:

"In the boom days of 1929-30 we handled a peak of 5,200,000 local calls a day. Now they average 6,600,000 a day. Long-distance calls then reached 70,000 a day; now they exceed 83,000."

The most stringent economy is practised in the use of all materials, says the Company. For instance, inspections are made of short lengths of both inside and outside rubber-covered telephone wires, unusable parts are scraped and the remainder is spliced and reclaimed. Even copper-wire that has been used for years can be

re-used. Even old wall sets that were taken out of use five years ago are in service again now after repairing, reconditioning and cleaning. It has been estimated that the construction of a corvette entails 50,000 telephone calls both long distance and local, and that 12,000 calls are necessary for the building of a bomber. Ottawa, Canada's capital, has had its telephone service doubled since 1939.

No. 52. -- Ready for the Change Over

Hark back for a moment to the marvellous rapidity with which the Canadian motor car industry changed itself from a peacetime concern to a wartime enterprise. How was this rapidity possible? The answer is very simple.

By collaboration with army engineers before the outbreak of hostilities in designing vehicles for military purposes, motor companies were prepared to divert their productive facilities to the manufacture of this equipment when war was declared. Since that time Canadian vehicles have served in every campaign in which Empire forces have participated and their efficiency and durability have been proved in the field. In fact so great has been the demand for Canadian-made vehicles that the manufacture for civilian use has been suspended in order to conserve materials and man-power for the war effort.

The vehicles produced by this great Canadian industry include a wide range of types,- service trucks, transports, field artillery tractors, personnel carriers, field work-shops, ambulances, etc. In addition, a steady flow of armoured cars, reconnaissance armoured cars and armoured scout cars are coming off the assembly lines. One of the most important single types produced is the universal carrier which is proving to be a most useful armoured fighting unit. By the beginning of 1942 a single Canadian plant was able to turn out enough of these carriers in a day to equip a battalion and in 14 days to equip an infantry division.

In order to maintain and enlarge upon this stream of armed vehicles for the fighting men of the Allied Nations the government ruled that production for civilian needs was to be halted by the spring of this year. Stocks of parts already in existance were to be used up and the cars produced from these parts were set aside in a pool by the Motor Vehicle Controller for emergency purposes. These cars were to be released only to persons whose duties were of an essential nature and who definitely require an automobile to perform them.

As a result of this ruling, drastic declines have been recorded in the sale of new motor vehicles during the past few months, about 16,000 units having been released during the eight months ended August as compared with 69,000 in the same period of 1941, a decline of 77 per cent.

No. 53. -- Ample Feed Supplies

Rationing and restrictions of some desirable foods may be the lot of the people of Canada, but no so the animal population which this year finds itself swamped with all the good things to eat. There is comfort in the fact, however, that the supplies of wheat, oats, barley, etc., crowding the feed boxes on almost every farm in the country will go into the production of more food for human beings, since cattle, hogs and poultry are but the machinery for converting feed and forage into human food.

A year ago there was a serious shortage of feed supplies for animals in many parts of Canada, and it became necessary for the Dominion Government to provide freight assistance in the movement of feed from one part of the country to another, in order that wartime programs might be maintained and Canada's commitments to the United Kingdom fulfilled. In this connection, wheat from western Canada played a very important role in filling the gaps in feed supplies in the five eastern provinces and in British Columbia.

The story in 1942 is different. It is a story of record yields in major crops, abundant supplies of root and fodder crops and greater quantities of high-protein feeds in the form of linseed and soybean oil cake and meal. The latter will result from larger crops of flaxseed and soybean, produced primarily for their oil content. Under these circumstances it appears certain that there will be greater competition between various feeds in filling the demand of live stock and poultry growers since the supply per animal unit greatly exceeds the long-time average, despite the substantial increase in animal population.

Using the September and October official estimates of field crops in Canada as the basis, the production picture for 1942 indicates roughly that the wheat crop is almost twice as large as in 1941, the oats crop more than double, the barley crop about two and a half times greater and rye crops more than double, while the hay and clover crop is about 25 per cent larger than that of last year. Of the other field crops, mixed grains are about one-third greater than a year ago and alfalfa about 50 per cent larger, while corn for husking and for feed show little change from 1941.

Add to this supply of grain and forage crops a substantial quantity of linseed and soybean meal, the output of bran, shorts and middlings from Canada's flour milling industry as well as a number of other feedstuffs, and the sum total is an enormous reservoir of animal food. Despite notable increases in all types of live stock and poultry in the past year there is much more than enough feed to go round and ample room for further heavy expansion of animal numbers from the standpoint of available feed supplies.

No. 54. -- Canadian Flaxseed

Although produced primarily for its oil content, flaxseed earns a place in any discussion of the feed situation because linseed oil cake and meal, the by-products of the crushing process, are important elements in the feeding of live stock and will this year be available in larger supply than usual, probably to the extent of 100,000 tons.

Canadian farmers were urged in 1942 to expand their flaxseed acreage as a wartime necessity and this they did by more than 40 per cent over the acreage sown in 1941. Favourable weather aided growers and a crop of about 17,000,000 bushels was officially estimated on September 10. It was not the first time that a flaxseed crop of this size had been produced in Canada but it was the biggest in almost 30 years.

A high fixed price underwritten by the Government, and a guarantee of unrestricted marketing of the crop by growers combined with an honest desire to meet a wartime need, induced heavy expansion of acreage while nature did the rest. As a result, Canada this year has enough flaxseed to satisfy the total crushing capacity of the country and provide a substantial surplus to meet the needs of the United Nations.

With additional crushing facilities available in 1942-43, it is expected that Canadian crushers will process about 5,000,000 bushels of flaxseed for oil. The seed requirements for the 1943 crop will probably not exceed 1.5 million bushels and even allowing for a reserve of between two and three million bushels to be held in Canada, there would still be about 3,000,000 bushels available for shipment elsewhere.

Under the terms of a recent agreement reached by the Combined Food Board, the United States has been given the exclusive rights in North America, among other territories defined, to purchase all supplies of oilseeds available to the United Nations. Adherents to this agreement include Canada, Australia, New Zealand and South Africa as well as the United Kingdom and the United States. It is expected, therefore, that Canada's surplus of flaxseed will move southward in good volume during the current crop year.

No. 55. -- Canadian Soybeans

There was marked expansion in the acreage sown to soybean in Canada in 1942 and most of this took place in the province of Ontario, according to preliminary figures now available. The western provinces and Quebec also produced soybean for beans but the commercial quantities likely to be made available in those areas will be very small, the bulk of the production being retained for seed.

According to the 1941 preliminary census data, approximately 16,000 acres covered the total area devoted to soybean in Canada in that year with 11,000 acres of this located in Ontario, but in 1942 the Ontario acreage expanded to 41,490 acres and the average yield has been tentatively set at 21 bushels to the acre. This suggests a crop of 871,290 bushels in Ontario of which probably about 700,000 bushels will be sold commercially for oil and meal production purposes.

Estimates from the western provinces suggest that possibly 3,000 bushels of beans will be marketed in Manitoba but in Saskatchewan only a few plots of beans have been planted and there will be no commercial crop this year. In southern Alberta, in the Lethbridge and Brooks areas some soybean acreage is under contract but in the province as a whole probably less than 1,000 acres of soybean were planted and some of this suffered from frost so that no important commercial quantity is expected to come out this year.

In British Columbia the intentions to plant soybean in 1942 were considerable but it is reported that only about 50 per cent or less than 2,000 acres were sown, about 1,200 acres of this being in the Creston area. Apart from the shipment of a few cars to Vancouver, the bulk of the British Columbia crop of soybean will be retained for seed or local feed.

Canada has been an importer of both soybean and soybean oil cake and meal in past years but will this year be able to meet more fully the domestic requirements from the larger crop produced. Equipment is available in Ontario to handle the crushing of soybean for oil and there is a market in eastern Canada for the cake and meal although it will have competition from linseed cake and meal which will also be available in large amounts this year.

It is estimated in the United States that 1,000,000 bushels of soybean crushed for oil will produce almost 24,000 tons of cake and meal and if Canada crushes approximately 750,000 bushels it will make available some 16,000 tons of cake and meal.

No. 56. -- Repairing Our Ships

One of the most vital needs of the Allied Nations in the present war has been that of merchant vessels with which to transport cargoes of food, essential materials, munitions and troops, to beleaguered countries. Voyages of cargo ships in wartime often take twice or three times as long as formerly, owing to the necessity of special routings for reasons of safety. Despite precautions, many ships have fallen prey to enemy action. In addition, blackouts at sea, and the fact that ships cannot use their wireless equipment, have resulted in frequent accidents causing a considerable percentage of the total shipping tonnage of the Allied Nations to be under repair almost daily.

In November 1940 the Director General of Shipbuilding was appointed Controller of Ship Construction and Repairs. Because of the urgent need for organizing and regulating ship repairs, it was decided in the Spring of 1941 that the Controller should devote his time exclusively to matters connected with the repair of ships, including the construction, maintenance and use of drydocks.

It is the duty of the Controller of Ship Repairs to see that Canadian ship-repair facilities are adequate and that they are put to the most effective use from the standpoint of the war program. To this end the Controller gives priority at all times to naval repairs and repairs to merchant vessels engaged in services essential to the war program. With respect to merchant shipping, major damage repairs which will tie up a drydock for several weeks are sometimes held up until routing drydockings are carried out on several vessels, the object being to make available the greatest volume of tonnage for loading cargo.

The Ship Repairs Controller co-operates with the British Ministry of Shipping, ship owners, agents, shipyards, drydocks, etc., to expedite the movements of ships from Canadian ports. Construction work on piers, dredging for drydocks and other necessary preparatory work was completed in 1941.

No. 57. -- Bumper Wheat Crops

The high tide of world wheat supplies continues to rise. The harvest in the United Kingdom, described there as a miracle has been successfully gathered, while a few weeks hence another river of new wheat will flow from the farms in Australia and Argentina. In 1942 the bread-grain supplies are stacked high in favour of the United Nations, while Nazi Germany and German-occupied Europe produced this year fifteen per cent less bread grain, wheat and rye, than a year ago, and twenty-five per cent less than the average of the four years, 1935-1938, according to a statement credited to the British Ministry of Economic Warfare.

Official figures on the size of the United Kingdom wheat crop are not available, but private observers estimate the production at between 100 and 115 million bushels which points to record yields per acre. The Australian crop is currently estimated at 145 million bushels. Wheat production in the United States is now estimated at 984 million bushels, only about 16 million less than the record-breaking crop of 1915.

The Canadian supply situation at present consists of 424 million bushels of old crop carry-over and 608 million bushels produced in 1942. This makes a total of 1,039,000,000 bushels, or the largest seasonal supply on record. There have been suggestions that this amount of wheat represents 20 years supply for Canada

but that would be true only if 11,000,000 Canadians were asked to eat this wheat in the form of flour or bread. In actual fact, one billion bushels of wheat is 51 million bushels less than Canada disposed of in the first three years of the war by one means or another.

These enormous reserves of wheat behind the United Nations are a guarantee that where it is possible to ship supplies there will be no shortage of bread, while they stand also as an assurance that wartime live-stock programs will not fail for lack of animal feed. At the same time, they have created storage and transportation problems, particularly in Canada and the United States where unusually large crops of other grains were also harvested.

With reference to the situation in Russia, it is believed by some authorities that the food position has been impaired by recent Axis onslaughts and that Russia will probably need more wheat from abroad than is likely to reach her. Other comment on the Russian grain situation from England suggests that territory lost in the Ukraine, North Caucasus and White Russia represents about 45 per cent of the pre-war spring and winter wheat area, but adds that Germany is not likely to benefit extensively because of the damage to land and machinery.

No. 58. -- Canadian Flour Mills

In yesterday's Fact a Day about Canada it was pointed out that the Allied Nations had tremendous stocks of wheat to back up their armies in the field. In view of the very close connection between the wheat field, the flour mill and the war effort it seems appropriate to give a short outline of how the Canadian flour milling industry came into being.

The Canadian industry which has existed to meet the domestic needs for well over 300 years dates back to the settlement made by the French at Port Royal -- now Annapolis, N.S. -- in 1605. Milling was, of course, a prime necessity to the first settlers of our Dominion. As time went forward and wheat acreage expanded Canadian millers began to establish markets abroad for their surplus flour. The Napoleonic wars are credited with establishing the Canadian wheat flour export business. For the next half century the mills were closely associated with the commercial and banking history of the country.

Large-scale production in milling began with the competition between the two processes, stone and roller milling. By the 1880's the roller process had secured a virtual monoply and local mills gave way to large mills served by elevators at central points. The high quality of Canadian wheat became recognized throughout the world and Canada's huge export trade in wheat and its products developed.

In 1940, the latest year for which complete statistics are available, the gross value of products turned out by the Canadian flour milling industry was close to $100,000,000, and although it was somewhat higher than the 1939 figure, it remained considerably below earlier years of the record.

No. 59. -- The Honey Question

Most of us are aware that there was a shortage of honey in Canada last season and we are hoping for a big crop next summer. Many people are thinking about starting a little apiary. One retired civil servant we know about, began last year and

has done remarkably well for a beginner. Sugar being rationed, honey becomes important.

To make a beginning one must make arrangements for the bees and here are some hints that may be helpful. Orders for package bees should be sent to reliable dealers during the previous autumn or early winter with date of shipping or of arrival plainly stated. The rapid expansion of the honey-producing industry during the past few years has strained the resources of dealers in bees and orders received late are often very late in being filled. Hives and other equipment should also be ordered early to allow ample time for shipping and assembling before the bees arrive.

For best results it is necessary to have package bees and nuclei arrive at the earliest date that the season can reasonably be expected to be sufficiently far advanced. A full colony in itself is farther advanced and so may arrive later.

In northern districts the month of April is often too cold to successfully put bees into a hive. The bees would not leave the cluster formed in the shipping cage, the queen would be neglected and chilled and might die. On the other hand, this small colony must grow to be a big one with five to ten times the number of bees by the time the main honey-flow starts, usually in June.

The queen requires a few weeks to build up to capacity egg production. More weeks are required for the bees to develop from the eggs. As it is the newly emerged bees which are the natural nurses, the queen is not encouraged to lay to the limit of her ability until large numbers of young bees are hatching in the hive. In fact, it may be said that the original bees merely rear the young bees which will act as nurses to those that will harvest the honey crop. Beginners would be well advised to procure bulletins on beekeeping from the Dominion and Provincial Departments of Agriculture. The nearest Agricultural Representative should be interviewed.

No. 60. -- Dehydrated Cheese

We know quite a lot about dried foods. For example we have used for many years dried eggs from China. One of the early helps for the busy housewife was desiccated soup. The pantry shelves bear testimony to the expansion during the past quarter century.

The latest, however, is a new type of dehydrated cheese. It is not yet on the market, but we are told it will be soon. It is claimed that the new process is different from other types of dehydrated cheese methods in that the cheese may be rehydrated by the addition of water when the cheese is ready for use. The claim is also made that the dehydrated cheese may be preserved for a long time in normal temperatures and humidity, without refrigeration.

It appears that at least one association of cheese makers in the United States has voted to organize a cooperation for the processing and manufacture of the new products and it is also reported that the Quartermaster Corps of the United States Army has tested the product and has found it to be satisfactory as a food product for the Army.

Dehydration has played an important part in the war. We have had dehydrated vegetables for quite a while now and these have been shipped to Allied Countries from the United States under the lease-lend programme. A cabbage can be dehydrated

and then pressed into very small space, and thus a problem of shipping overseas has been solved. It appears that cheese can now be compressed into small cubes for shipment also, and it doesn't take very much imagination to envisage how much vaster a cargo can be carried on a ship.

One can also see how much dehydration will help the guerillas of Russia, Jugo-Slavia and Greece. Those Australians and British who had to be left behind when the evacuation of Greece by the British forces took place should be able to carry a lot of compressed food in their pockets when they are on the hunt.

No. 61. --- Whence Come Our Spices

Spices proper are cardamon seeds, cinnamon, cloves, ginger, mace and nutmegs which are part of the same fruit, also pepper and pimento. Some people argue that these can be grown successfully on the North American continent; other authorities say - No.

Spices were known in China as far back as 2,000 years before the Christian Era and when the first Portuguese discoverers arrived at the Spice Islands the trade between them and China had been going on for many centuries. These Spice Islands are known as the Moluccas. They are a group of small islands located, generally speaking, between Borneo and New Guinea. They have an unusually fertile volcanic soil.

In the early centuries of the Christian Era there was an active trade between Rome and India. There were spices in that commerce, but with the fall of the Roman Empire, the trade in spices died out.

Following that time and during the Middle Ages in Europe there was no tea, no coffee, no cocoa, very little sugar, no potatoes and very little variety in vegetables. There was not much cattle food for storage, so beef was killed in the fall and salted. The monotony in food must have been dreadful and this led to a return to spices. Cloves, nutmeg and ginger wrought a transformation. Spices became the most precious of all commodities. Pepper was worth its weight in silver. Many towns kept their accounts in pepper, taxes were assessed and paid in it.

All the spices came from India and the Malayan Archipelago - the present Netherlands East Indies, and also from Southern China.

There were expensive losses and robberies during the arduous journeys by camels and small boats creeping along the coasts from China, the Malays and India by the Red Sea to Alexandria. Most of the spices were taken to Venice where they were sold on the Rialto. The journeys usually occupied two years, and duties or tributes would have been paid probably ten times on the way, so that by the time the spices reached their destination the value would have risen to one hundred times the original cost. Apothecaries sold spices by the ounce and a sack was valued at a man's life. By the way, no Christian boat was allowed on the Red Sea nor any Christian allowed on the caravan routes. Finally Vasco da Gama went round the southern tip of Africa and up to Malacca.

They tried to grow these spices in Southern Europe where the climate was supposedly suitable but all the ventures failed. That is why the critics believe the attempt in America will fail also. They argue that the soil is not suitable.

Just now, of course, we are not importing spices so freely as before the war, but when the war is over that ancient commerce will be resumed.
