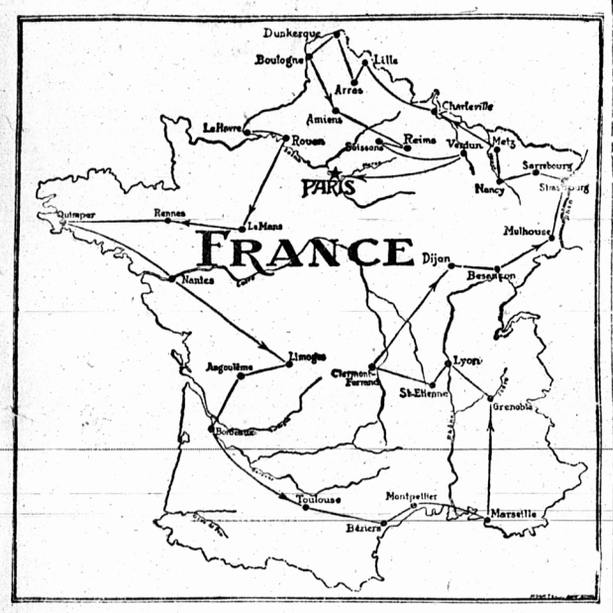
ITINERAIRE DU TRAIN-EXPOSITION CANADIEN



CANADIAN EXHIBITION TRAIN ROUTE

MONTREAL, April. 6.—France offers Canadian export trade one of the most valuable markets in the world, as a result of the great demand for all kinds or goods, raw materials as well as manufactured products P. E. Naggiar, French Consul General to Canada declared here to-day.

"The total of our imports in the year 1922 was about one billion dollars at the present rate of exchange," he said, "and there is no reason why Canada will not be able to increase its share of this enormous amount.

"The recent signature of a new treaty of commerce will give to Canadian trade important tariff advantages in our market and I sincerely hope that manufacturers and exporters of this country will not miss the opportunity offered to them.

"Aside from the purely sentimental aspect of the movement, the inter-allied financial relations more than justify all nations which fought side by side in the war to ally themselves anew in the war for prosperity and I feel confident that Canadian manufacturers will have reason to congratulate themselves on exhibiting their wares in France."

Trade associations representative of groups of manufacturers from coast to coast have contracted for practically all available space on the train, the schedule at the Canadian Exhibition Train headquarters showed this afternoon.

Exhibits promise to cover the travel of a score of products from their roughest stages to the most delicate manufactures. Among the principal associations which have undertaken such displays are the Canadian Pulp and Paper Assn., with a remarkable exhibit of all grades and varieties of Canadian lumber and wood products; the Rubber Manufacturers Assn., of Canada; the Paint Oil and Varnish Mfrs Assn., of Canada, and the Canadian National Millers' Assn., of Canada with a flour and grain display.

Ontario manufacturers apparently are determined upon capturing a lion's share of the French market as there rangs alone supply nearly three quarters of the total exhibition roster.

Owing to the large number of applications from intending exhibitors, the train sponsirs are grouping exhibits where possible and arranging for each group of manufacturers to send a special representative to accompany the train and preach the special merits of the individual articles to be shown

The expense of the entire exhibition aggesgating some five million francs is being borne jointly by the French Government and the French railways. This completes the undertaking of the Canadian Government and Canadian railways which carried the French exhibition on its tour of Canada. As in the case of the French exhibitors, Canadian manufacturers will send their displays free of charge.

Of Interest to Farmers

HOT BEDS—THEIR CONSTRUCTION AND MANAGEMENT.

(Experimental Farms Note.)

A well-managed hot bed is an asset to every home garden. It not only ensures a crop of early tender vegetables, but also makes possible the beautifying of the home surroundings with annual flowers.

Hot beds may be classed as underground or surface types. For general use in the Maritime Provinces, the surface type is preferable. The hot bed site is an important feature in hot bed construction. It should be well-drained, on a southerly slope, protected by buildings, evergreen hedges or a board fence from cold north or west winds, and where all the possible sunshine will be obtained.

The Frame: Collapsible frames are recommended. They are easy to assemble and store, and with proper care will last indefinitely. Planed 2-inch spruce plank is generally used in their manufacture. The three-sash size is advocated. The sides for this size should be cut 9 feet, 6 inches long. This allows for a cleat 2 inches wide being fastened on the sides at each end to prevent the planks from splitting, and also for the end pieces to rest against for support. The back or north side should be 16 inches wide, while 10 inches is a good width for the front or south side. This gives a slope to the south which permits the water to run off and favors the passage of the sun's rays through the glass. The ends are 6 feet in length and taper from 16 to 10 inches in width to fit the side boards. Strips of 1-inch board, 6 feet long and 3 inches wide, are fastened 2 inches above the outside edge of these ends to prevent drafts of air going under the sashes. The ends are set in place against the cleats on the sides and fastened with 3½-inch screws. As supports for the sashes and to hold the sides in place, cross strips of board 3 inches wide are sunk into the sides 3 feet from each end and another strip of ¾-inch board 2 inches wide fastened on edge in the centre of the 3-inch supports. These strips prevent the loss of heat and drafts between the sashes. This frame is completed with three 3 feet by 6 feet hot bed sashes, which should be thoroughly painted before use.

The heating material: Horse manure makes the best heating material. It should be quite fresh, not fire fanged or rotten or already heated. A few days before starting the hot bed it should be hauled near to the site chosen and forked loosely into a pile. Within a few days it should be hot enough for use. It should be then built evenly into a rectangular pile 11 feet by 15 feet, ranging when thoroughly tramped from 24 inches in height according to whether it is started late in March or late in April. The frame is placed on top of this, levelled up and banked on the outside with manure and a thin layer tramped on the inside after the frame is in place. The sashes should be put on and the bed left until the temperature becomes constant at between 80 degrees and 90 degrees Fahrenheit, before planting.

The Soil: This should be prepared the previous autumn and left in a pile over winter. It should be rich and of a character that will not bake. Good thick pasture sods, composted the previous summer with one-third their bulk of rotten manure, thoroughly mixed and riddled in the spring, make an excellent soil for hot bed purposes. There are two methods of managing the soil in the hot bed. It may be put directly in the frame to a depth of 6 inches and the seed sown therein, or it may be put in flats or boxes 12 inches by 18 inches by 4 inches, the seed sown in these and the flats placed in the hot bed on the surface of the manure. If flats are used, the bottoms should permit of drainage. Smal holes bored in the bottoms of the flats answer this purpose. In filling the flats with soil the coarser should be placed in the bottom, care being taken to press it gently into the corner and along the sides. The finer earth is placed on top and the seed sown therein. To the gardener who starts a number of vegetables and flowers in his hot bed, the latter method is advocated, owing to the plants being easier handled at pricking off time. The flats also permit of an easy re-arrangement of the plants in the hot bed at any time.

Management: After the seed is sown, the soil should be watered. When the young plants come up, the hot bed should be aired sufficiently on bright days to prevent the plants from getting spindly or weakly. This is accomplished by raising the back of the sash or by sliding it down, care being taken to prevent the plants being chilled. Later, when the days grow warmer, the sashes may be removed throughout the day. Water must be applied when necessary, preferably during the mornings of bright days. Too much water is injurious, causing "damping off" fungus to destroy the plants. After the young plants show their second leaves and have a good root development they should be transplanted into other flats where they remain until set out in the field or beds. Flowers, celery, lettuce, early cabbage, cauliflowers and onions should be started by April 1st, while tomatoes should be started about April 10.

WHITE PINE BLISTER RUST.

(Experimental Farms Note).

The disease known as blister rust of white pine is caused by a fungus which is believed to be not native to this country but to have been introduced on imported nursery stock from Europe about fifteen years ago. At that time considerable quantities of young white pine were being used for planting both in Canada and in the United States. On account of the fact that labor in Europe was much cheaper than in America it was possible to import nursery stock at much lower cost than it could be procured for here. While white pine is not a native of Europe, it has, on account of its valuable qualities, been grown there for over two hundred years, during which time blister rust became thoroughly established upon it. When young trees were then shipped to America the fungus also was included.

The cycle which blister rust requires to complete its life history covers a period of several years. During the spring, in May and early June, numerous orange-yellow blisters about the size of small beans break through the bark of white pines. These blisters are filled with a powdery substance composed of very minute bodies known as spores. The enclosing membrane of the blisters soon ruptures, and the spores, which correspond to seeds in higher plants, are borne away by the wind. If further growth is to result from the spores they must be deposited upon the lower side of a currant or a gooseberry leaf, because it is only in this way that the life is similar to the well-known rust of wheat in which case the barberry acts as the alternate host. The fungus causing blister rust, then, cannot spread directly from pine to pine. Upon the leaves of currants or gooseberries the fungus appears in the form of small yellow spots which again are composed of spores. These spores can spread to other leaves on the same bush or to other currants or gooseberries, and the fungus may thus become widely distributed. In the late summer spores from currants or gooseberries are carried by the wind to nearby pines and, being deposited upon the needles, grow down into the wood of the branches. Apart from a swelling of the limb there is little external indication of disease for at least three years following infection, and the period may be considerably longer. At the end of this time, the fungus again produces blisters which break through the bark and the life cycle commences again. The effect of this disease is that eventually it kills the tree by girdling. Upon currants and gooseberries the effect is negligible except in severe cases of infection when defoliation may result. If this is continued for several years the plants will probably succumb.

In New York and in the New England States blister rust is widespread upon both currants and gooseberries and upon pines, and it is causing much damage there. In eastern Canada, while the disease is present in every province, it is generally confined to currants and gooseberries, and so far the pines have not become inflected to any great extent. In British Columbia rust has been present in the coastal section for about the same length of time as it has in the East, and it is so firmly established upon both hosts there that control measures are out of the question. In the interior around Revelstoke, where there is more white pine than on the coast, it has not been present so long, and it may be possible to adopt control measures there. In any case the total amount of pine in British Columbia is small so that any damage which might occur there would not be nearly as important as that which might be caused in the east. Fortunately there is a simple method of protecting the pines against blister rust. Since currants or gooseberries are required for one stage of the life history of this fungus it follows that if they be not present the rust cannot develop. The elimination, then, of currants and gooseberries in forested lands would prevent any damage to white pines from this cause. This work can be done for a surprisingly small charge per acre, and may become necessary in the future in estern Canada.

FEED THAT MAKE COWS GIVE MILK

There are three groups of compounds in all foodstuffs that must be considered in making a mixture of feeds. They are known as protein, carbohydrates and fat. Protein includes those compounds containing nitrogen, which enter into the composition of muscle, hair skin, blood, milk, etc. It is impossible to develop a young animal properly without a sufficient amount of protein. A cow can not produce all the milk she is capable of producing unless she has a sufficient amount of protein, Alfalfa, clover, peas, oats and bran are especially valuable to the dairyman because they contain a large amount of protein. Cows that receive only timothy hay, corn stalks, beet pulp, roots, corn and barley do not produce to their capacity because they are not getting enough protein. No other substance can take the place of protein as a milk producer and a tissue builder. In addition to these uses, it also furnishes heat and energy to the body and may be changed into fat.

Carbohydrates include the fiber, the starch and the sugar of the feeds. They also, as well as protein, provide the body with fat, heat and energy. The fats in the food produce heat, energy and fat in the body. Linseed and cottonseed oils are examples of plant fats. One pound of fat produces about 2.2 times as much heat as one pound of protein or of carbohydrates. Only part of the protein, carbohydrates and fat given in the food can be digested and used by the body, the rest passing away in the excrement. Only the digested compounds benefit the animal. The non-digestible compounds that pass away in the excrement have no value. Non-digestible fiber has no value and an excess of it is an injury to a cow, as energy is required to get rid of it. This is particularly true of straw and shows why straw should not form a large part of the ration. If a cow eats 100 pounds of clover hay, she digests 7.1 pounds of protein, 37.8 pounds of carbohydrates, and 1.8 pounds of fat; 53.3 pounds passes from the body and is of no value as food. A large portion of the nutritive compounds are soluble in water, and when hay or other foods are wet by rains or improperly cured their food value is decreased.

Special attention should be given by the dairyman to the preparation and combination of his feeds and especially to the curing of his forage. When giving a large flow of milk on dry feed, cows generally require considerable grain to maintain the milk yield. The amount of grain with the ration should be gauged by the milk flow. A good rule is to give one round of grain per day to every three or four pounds of milk produced per day, or give as many pounds of grain per lay as pounds of butter fat produced per week.

It will pay well if conditions are normal to advertise meritorious live stock. It will not pay to overadvertise at any time, regardless of quality, and it surely is a mistake to put a high selling expense on stock more or less plain, when one's knowledge of market conditions should point to the folly of that course.

Christ fairer is than sons of men,
Although the Jews did Him condemn;
No fault could they in Jesus find,
In this He was above mankind.

Superior Christ to Moses was,
Although they hanged Him on a cross,
Mediator of New Covenant is,
And to the Church conveys all bliss.

Greater than the Aaronic priests,
In Christ all excelling exisits,
Their sacrifices weer but types
But His confers all Heavenly rights.

In Heaven He intercession makes,
And in His people interest takes,
Whatever He asks He there receives,
Their wants and pains He then relieves.

Christ holier in than angels bright,
Although they dwell in Heavenly light;
Their goodness was from their creation
His by eternal generation.

'Tis from Christ that we get all grace,
To help us in the Christian race,
That He may take us safe to Heaven,
Where crowns of glory will be given.

D. MacLEAN

Will Summertime Remain Away This Year?

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spot maxima intercepted enough of the sun's heat to account for the cold weather of 1816. No crops were raised even in Virginia. Potatoes, beans, wheat rye and corn, hardly got above the ground. There was no hay or pasturage, and farmers sold their livestock for a few dollars a head to the more fortunate ones who had carried over from the previous year a supply of hay and grain. Ice formed and snow fell every month in the year. While the East was well settled, the trans-Appalachian country was receiving its first strong impulse of hardy pioneers. Detroit was a small village and military post, St. Louis a French fur-trading settlement and Chicago still Fort Dearborn. The abnormal cold extended to the British Isles, Europe, and even into North Africa. It may here be noted that 1762, 1816, and 1870 three seriously abnormal years, fit into the 55.6 year cycle of highest maxima of sunspots, that the dry year recorded nearly as many sunspots as the 11.11 year cycle of 1883 and that the next 55.6 year major circle will fall in 1926-27.

"The most interesting record of 1816 is that of Charles Peirce, of Philadelphia, from which the following is taken:

April—Mean temperature 47. Cold blustering snow storms, ice several nights. All buds and green things killed.

May—Mean temperature 57. A frosty jade, her frowns many, her smiles few. Cold frosty, north winds. Buds and small fruit frozen. Ice 1-4 to 1-2 inch. Corn replanted three times.

June—Average temperature 64. Coldest ever remembered. Severe frosts and on one day ice All restarted plants killed.

Six to ten inches of snow in Vermont, three inches in New York, several inches in Maine and New Hampshire.

July—Mean temperature 68. Frost and thin ice 5th. Ice as thick as window glass in New York New England and Pennsylvania. Grass destroyed. Very little rain.

August—Cheerless and cold. Northeast rains. Ice 1-2 inch thick Indian corn frozen. Newspapers from England say: "It will be remembered by the present generation that the year 1816 was a year in which there was no summer."

September—Opened mild. Mean temperature 62. Frosty 17th. Severe Equinocial storm, 23rd. Then several days of freezing weather.

October—Mean temperature 41. Cold, freezing; a few warm days.

November— Mean temperature 41. Cold. Froze hard several nights.

December—Mean temperature 32 Milder."