

# IRRIGATION IN SOUTH ALBERTA

The demand of the Alberta farmer for further irrigation extension in southern Alberta and Southwest Saskatchewan, so emphatically raised in the recent Irrigation Convention apparently being held, for all the Minister of the Interior, accompanied by the Superintendent of the Reclamation Service, and the Minister of Colonization and Immigration, has visited the West and discussed the situation with bodies of farmers at Maple Creek, Raybould, Lethbridge, Macleod, Calgary, etc. And they have promised that further surveys for that purpose will be undertaken without delay.

For a long time many claimed that irrigation was unnecessary in Western Canada. Conditions of drought do not regularly occur there, and it is apart from the fact that the scientific principles of dry farming have now obtained a great following, there was not, they insisted, the same urgency for irrigation as in other less fortunate countries, where the rainfall is usually so small as to make agriculture impossible without it.

When one looks back over the history of irrigation in the West and remembers the strenuous opposition the movement met with from the public generally, one is struck with the radical right-about-face in sentiment, for not only is it now admitted to be advantageous, but farmers throughout practically the whole of the south demand its extension if agriculture is to be permanently successful. Doubtless, experiences of the past two years with a rainfall of the Southern Alberta of less than 10 inches, and the bumper crops raised by irrigationists, is responsible for this unanimous change in opinion.

The semi-arid portion of Alberta occupies a belt approximately 160 miles in width north of the state of Montana, and extends from the Pacific coast to the west across the divide of the Rocky Mountains, extending into the more humid climate of Saskatchewan at the eastern base of the Cypress Hills. Dr. Emanuel Fortier, consulting irrigation engineer of the United States Department of Agriculture, who a few years ago thoroughly investigated irrigation conditions in Alberta, gave it as his opinion that in portions of these provinces the natural rainfall is insufficient for profitable farming, and that the main issue would be not so much whether irrigation is necessary or not, but rather, just how long profitable crops could be grown without it. And his prediction has proved correct.

Many arguments can be advanced in favor of irrigation being in all ways superior to dry farming. Irrigation, when properly applied, is the best kind of farming because it is the only system that permits of the most intelligent treatment of every individual crop to suit its requirements. It eliminates the necessity of summer fallow and elaborate treatment of the soil in order to conserve moisture. The basis of all true agriculture, and especially mixed farming, and especially the special crops, such as alfalfa, clover, wheat, etc., the success of which without water, is problematical, can be raised. In every case where it has been put to the test in comparison with ordinary farming methods, it has been proved to increase production from 25 to 100 per cent. From the point of view of the community which depends upon the agricultural class for its own sustenance, it has proved highly desirable because it means smaller farm units, denser settlement, intensive farming, increased trade, and a larger spreading capacity per head of the tributary population.

Admitting the truth of the foregoing, it is clear that the primary reason for irrigation is crop insurance. Irrigation in Western Canada is most largely practiced in Southern Alberta. At Lethbridge, the Dominion Government maintains an experimental farm, at which careful records are kept of yields obtained from the operation of both irrigated and non-irrigated areas, and why be claimed that results on experimental farms may be obtained that are not within the reach of busy farmers, the records are of deep interest and are being assailed. The Government is entirely neutral in these matters of farming, and at no time has any attempt been made to demonstrate the advantages of irrigation over dry land farming. One-half of the farm lies below the ditch and is irrigated; the other half is above the ditch, and the latest methods of dry farming have been practiced.

On the dry land farm, an attempt has been made to solve the problem that the dry-land farmer is confronted with, the best methods of summer fallow, weed control, soil drifting, etc., and on the irrigated part, the question that the irrigator is particularly interested in, the same crops have been raised for the past eleven years, from 1908 to 1919. W. H. Fairfield, the farm superintendent (who prior to coming to Canada was engaged in similar work in the United States) has kept a careful record of all crops grown on this farm, and the result has proved beyond the least doubt the advantages of irrigation in the country. The increase in bushels of wheat (Marquette) was 23, of oats (Banner) 33, of barley (Chevalier) 35, of peas (all varieties) 14, potatoes (Irish Cobbler) 250, and other crops in like proportion. Only in one case in the whole eleven-year period did any crop fail below the irrigated area in 1918, and it is only fair to point out that the dry land crops have been summer fallowed, which means that one crop every other year, while on the irrigated land a crop of some kind has been produced year in and year out. The annual precipitation for the eleven years is 16.51, the highest being 23.05, the lowest 7.62.

Similar results to these have been experienced on the Canada Land & Medicine Hat, and on the C.P.R. experimental farms at Strathmore and Brooks, while many individual cases of results attained by farmers throughout the whole territory may be cited. Alfalfa production is becoming general on the irrigated lands, and at prices running from \$35 upwards, it alone a great source of income to the producer. A large amount of capital has been expended by corporations in the western provinces during the past ten or fifteen years in providing additional water supplies to supplement the scanty rainfall. Of these corporations the C.P.R. has been the heaviest investor, and though for many years considerable criticism has been levelled at the company, it is now clear that the investment purely as a financial undertaking and quite apart from the benefits being derived from the individual on his land and the country as a whole, is justifying itself.

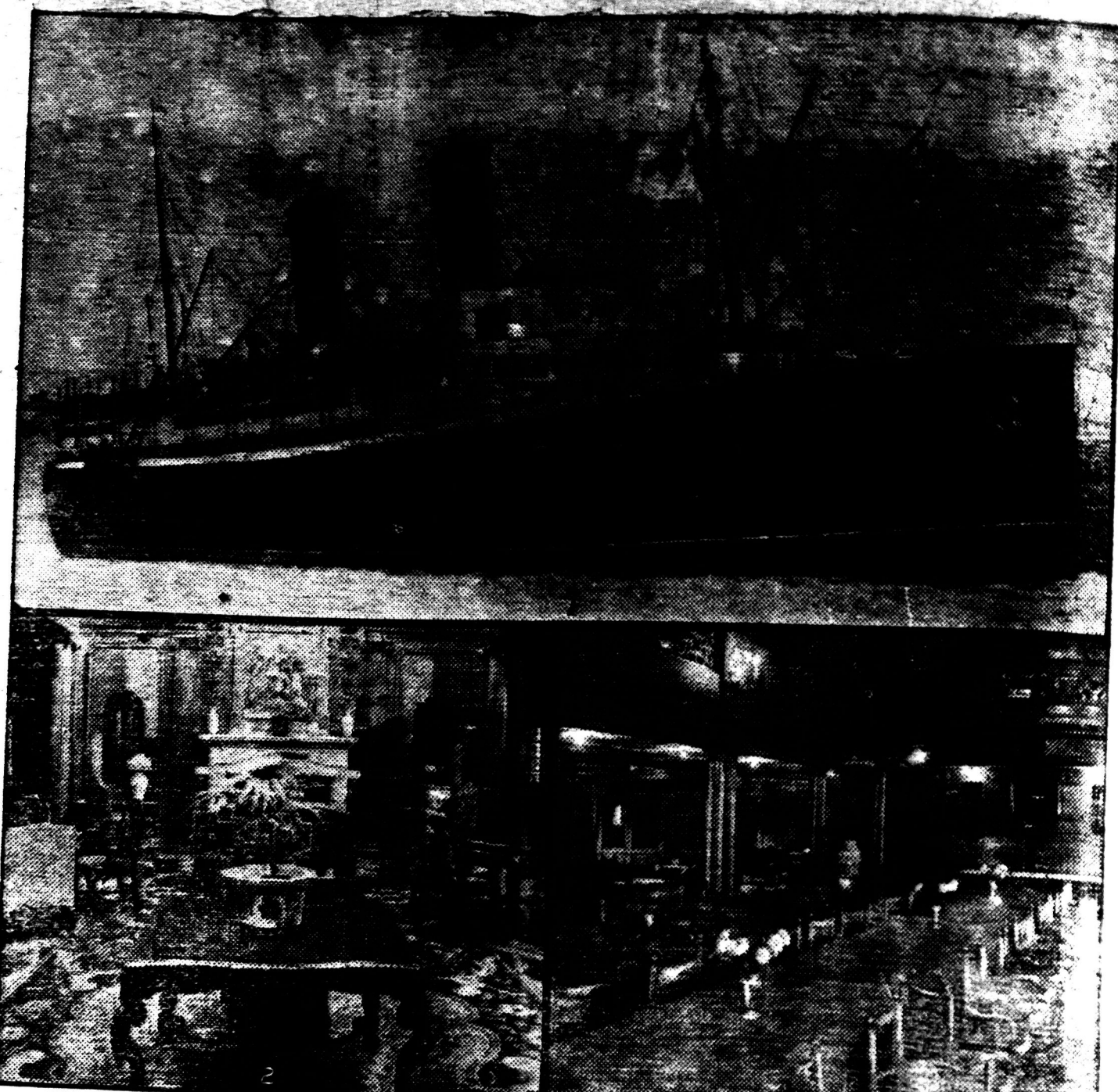
The Canadian Pacific has developed in Southern Alberta the largest individual project on the American continent, with an area greater than the total irrigated area in either Colorado or California. Its irrigable area exceeds 600,000 acres.

While the total length of its canals and ditches is greater than Canada's longest river, the Mackenzie, or the rail distance from Vancouver to Halifax. Surveys originally made by the Dominion Government determined that for 150 miles southwesterly from Calgary and approximately 20 miles north and south of the C.P.R. main line, was a district admirably suited to irrigation both in gentle slope of the land and character of the soil. The western section of this block is now thickly settled, with the block being taken up as fast as the land can be placed on the market. Spontaneous recognition of the value of irrigation by those who have it not and want it, is evident in the constant daily stream of letters of application received by the company, and the interesting fact in connection therewith is that many of those who now demand it formerly turned it down when they might have had it.

A further area of 100,000 acres in the Lethbridge district, originally developed by the Alberta Railway & Irrigation Company, was acquired by the Canadian Pacific Railway, and has now reached a remarkable stage of development and prosperity. The agitation of the farmers for further irrigation and irrigation quickly. The farmers claim, with justification, that it is a life and death issue for them; if they are to remain on the land they must have it; if they do not get it, the only alternative is their exodus. Already the Government has a lien on their lands for seed food and other assistance, amounting to four million dollars, and from the point of view of the Government alone, it is a business proposition. As a result of a recent meeting between Dominion Government officials and the farmers, referred to above, the Government has promised further immediate surveys of 500,000 acres, which, added to the million and a half already known to be irrigable, will give a total irrigable acreage of two million. A recent statement attributed to the Dominion Superintendent of the Reclamation Service places the land in Alberta and Saskatchewan that requires irrigation at 54,000,000 acres, and that of the North and South Saskatchewan and the Battle and Red Deer rivers, is declared by engineers to be irrigable, which, with plenty of water available, will prove to be one of the best productive portions of the Canadian West. To irrigate the 500,000 acres above referred to would cost an estimated \$20,000,000.

That vast sum of money invested by the Canadian Pacific in its irrigation enterprises above outlined is sound, is beyond any question. With 600,000 acres of irrigable land between the cities of Calgary and Medicine Hat producing bumper crops year in and year out, it is not difficult to calculate the percentage of the company's freight and passenger revenue, and on the province as a whole, for it is clear that the greater crop production and greater general prosperity of any people depends on the fertility of its rural population. The statisticians say that one who has a better farmer is one who has always claimed that the province of Eden was an irrigated province, and the fruitfulness of the soil is the executive in forcing the construction of the irrigation system. The irrigation system has been clearly demonstrated.

# AN INTERESTING WAR RECORD



(1) C. P. O. S. Empress of France. (2) The first class lounge. (3) The first class dining saloon.

The latest addition to the great fleet of C.P.O.S. Steamships which ply between Canada and practically all the important ports of call in the world is the "Empress of France," before the war popularly known as the "S.S. Alsatian" and one of the ocean greyhounds between Canada and Liverpool. The vessel has been reconsecrated since the war ceased and recently completed her maiden trip to Quebec under her new name. The photographs here reproduced give an adequate description of her interior arrangements and fittings, which will compare favorably with the great liners of this respect. The "Empress of France" has a length of 689 ft., beam 72 ft., depth to deck 34 ft., 6 in., and a tonnage of 18,000 tons. A striking peculiarity is the cruiser's stern, which imparts a warlike appearance to the vessel. Her war record is one to be proud of.

The "Empress of France" as the "Alsatian" was commissioned for the service under Royal Proclamation of the 1st of August 1914. At a meeting of the Board of Directors of the C.P.O.S. held on August 1st, 1914, it was decided to purchase the "Alsatian" and to rename her "Empress of France." The vessel was purchased for \$1,500,000 and was delivered to the company on August 1st, 1914. She was commissioned on August 1st, 1914, and sailed for Quebec on August 1st, 1914. She was recommissioned on August 1st, 1914, and sailed for Quebec on August 1st, 1914.

From August to December, 1914, she remained as above stated, but in December she was made Flag Ship of the Squadron to which she was attached, and Vice-Admiral Sir D. D. Hoyle, R. S. De Chair, K.C.B., M.V.O., hoisted his flag, which flew up to March, 1916, when he was succeeded by Admiral Sir Reginald G. Tupper, K.C.B., C.V.O., who was succeeded in November, 1918, by Rear-Admiral C. W. Knightley Paken, under whose flag she terminated her commission as an Armed Cruiser.

The Squadron to which she was attached, and later became Flagship of, consisted of 24 vessels, the majority of which were Armed Merchant Cruisers. The duties of the Squadron consisted of the stopping of vessels, boarding them and examining their papers, and should on examination they prove to be at all of a suspicious nature, a Naval Officer was placed in charge of the vessel, taken into a United Kingdom port for closer examination. This was largely applied to any of the vessels, passengers or crew, as each and everyone had to give a satisfactory explanation as to their nationality and business. Available records show that in all the Squadron's operations some 16,000 vessels were stopped, and some 100,000 passengers were examined. The vessel was recommissioned on August 1st, 1914, and sailed for Quebec on August 1st, 1914.

While engaged on the coast she escorted nine convoys of about 25 vessels each, carrying an estimated number of troops per convoy of 30,000, principally Americans. While engaged on Convoy Escort duties the "Alsatian" also carried troops and cargo, the number of former per voyage being about 600, and the weight of cargo per voyage between 2,000 and 3,000 tons. She made her last voyage on Government Service in November, 1918, sailing from Liverpool on the 14th, and docked at that port on December 11th, 1918, having sailed a total distance on Government Service of 256,741 miles and consumed 170,573 tons of coal.

On January 17th, 1919, she was recommissioned as a Naval Officer's vessel, and sailed for Quebec on January 17th, 1919, and sailed for Quebec on January 17th, 1919. She was recommissioned on January 17th, 1919, and sailed for Quebec on January 17th, 1919. She was recommissioned on January 17th, 1919, and sailed for Quebec on January 17th, 1919.

# Recollections of the Old Survey Days

During the summer of 1881, we were locating and running trail lines for the main line of the Canadian Pacific Railway along Nohamsing Lake and down the Vase Creek towards Lake Nipissing. A Mr. Morgan was in charge of the party, that gentleman for work, Mr. E. J. Duchesnay was translator, and Emile Tetu, a French-Canadian, was interpreter. At that time there was but one settler on Nohamsing Lake, and what fishing there was in it.



While we were camped along the lake we used a lumberman's red boat to take us to and from our work, when we invariably trawled with a hand line and common spoon. I recollect this rowing to work one morning. Duchesnay trawled, I sat looking on. Suddenly there was a tremendous tug at the line. Uttering an exclamation Duchesnay began hauling it in, but it was no big net. 'Twas evident he had hooked a big one. Fortunately, however, the line was a stout one and the fish, a large red and silver spoon. How the fish must have swarmed in the lake, then. What sport might not expect fishermen have today, with rods and reels? Where could they find finer camping grounds either, or lovelier wild scenery of lake and woods?

When we had left the lake a few miles from our survey we got into the most beautiful country along the Vase Creek. What a paradise that country was for sportsmen, then, before the world old game had been disturbed by the lumberer's axe. Moose, bear, buzz about. Never a day passed that we did not see fresh tracks of them. The bear and lynx we never saw. What an opportunity we had. A moose occasionally we did. One day, while running the line along a side hill, in the open brush, we saw six magnificent moose. But, of course, no rifle was ever carried on the line, and we could only watch them trot away. What strides they took, with what ease they negotiated fallen timber! It was about mid-summer, if I remember rightly, of that year 1881, somewhere along the Vase. We had gone out to work as usual. I was a

# Salmon from British Columbia Fisheries



There are salmon and salmon, but the finest specimens of this sporting fish come from the waters of British Columbia. There is a variety of salmon on the Atlantic coast which is highly prized as a delicacy, but the supply is very limited; the catch on the Pacific coast is about thirty times as large and also very fine in size and quality. Salmon canning is one of the principal industries of British Columbia and the Fraser River catch is now almost looked upon with envy owing to the tremendous decrease of the salmon catch in the State of Washington, where the famous variety called "Sockeye" once abounded in Puget Sound in such enormous quantities. It is now feared that unless the United States Government prohibit fishing in Puget Sound the salmon industry will suffer. To date the State of Washington has failed to accede to the Canadian proposals for a joint control of the Puget Sound and Fraser River fisheries, but the Dominion Government is again taking the matter up, proposing a joint protection for fifteen years. The reason for salmon fishing is short, being about 48 days in the Fraser River section and about 62 days, including Sundays, for the Humbia catch runs. The British Columbia catch runs around 1,500,000 cases of 48 pounds each a year. There are five varieties—Sockeye, averaging 6 pounds, maturing in the fourth year; Quinnet, 18 to 20 pounds, maturing between the fourth and sixth year; Silver, 3 to 4 pounds, mature at three years; Pink, 3 to 6 pounds, mature at two years, and Chum, 10 to 12 pounds, mature at three to six years. All these fish return once on maturity to spawn in the stream where they were hatched, and both sexes die after spawning. The main fish-eries are the Fraser River, Skeena River, Nass River, Rivers River and around Vancouver Island. The fish are caught in gill nets and seines and by trolling.

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