

THE AGRICULTURE OF THE PEACE RIVER FRONTIER

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The Peace River Country comprises the northwest quadrant of Alberta and the contiguous Peace River Block of British Columbia, and occupies approximately the central part of the basin of the Peace River (Fig. 1). Extending nearly five degrees north of 55° N. latitude, and from 115° to 122° W. longitude, the Peace River frontier has the latitude of southern Scandinavia and the longitude of the Columbia Plateau. The region includes 73,500 sq. mi. of territory, or 47,000,000 acres, an area 1.3 times that of Illinois. The Peace River settlements (Fig. 2) are reached by way of Edmonton, Alberta, Peace River and Grande Prairie, the principal towns of the area, being 300 miles and 400 miles, respectively, northwest of that city (Fig. 1).

Although the Peace River frontier has considerable stands of white spruce and of lodgepole pine of commercial dimensions,¹ and also significant supplies of coal, gypsum, and possibly petroleum,² the timber and mineral resources are for the most part, on account of inaccessibility, of potential rather than of present value. The Peace River Country, with a population estimated at 25,000-30,000, is essentially an agricultural region and constitutes probably the most northerly large area of agricultural land in North America.

The status of agricultural development in the area may be indicated by the volume of farm products available for export. During the crop year 1927-28 the shipments of grain amounted to almost 8,000,000 bushels, 5,300,000 bushels, or 68 per cent of the total, consisting of wheat, and the remainder being coarse grains, chiefly oats.³ In 1927 the settlements exported some 700 carloads of livestock, made up of more than 20,000 hogs and approximately 9,000 head of cattle.⁴ In 1927 also a quantity of creamery butter, amounting probably to 400,000 pounds⁵, reached Edmonton from the Peace River frontier.

¹ F. H. KITTO, *The Peace River Country, Canada*, Department of the Interior, Canada, 1928.

² *Ibid.*, pp. 42-43.

³ W. D. ALBRIGHT, *Report of the Superintendent, Experimental Sub-Station, Beaver lodge, Alberta*. Department of Agriculture, Dominion of Canada, p. 4.

⁴ *Ibid.*, p. 6.

⁵ *Ibid.*

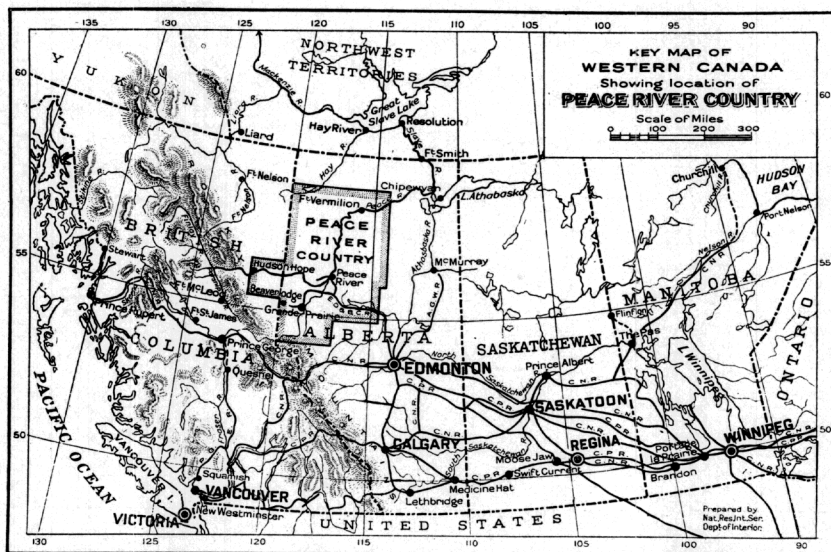


FIG. 1.

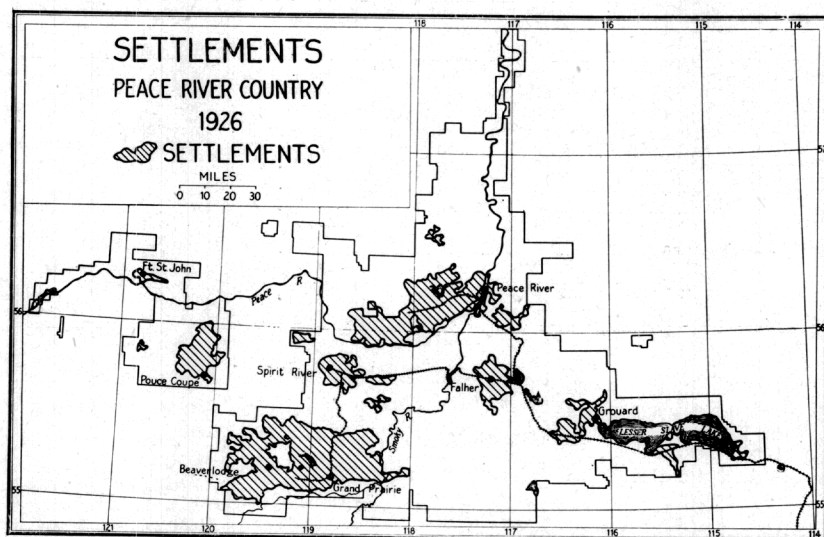


FIG. 2.

The major problems of this marginal region are the geographic problems involved in the reclamation of raw scrub or bush land and its utilization for agricultural purposes; and the placing of surplus quantities of farm products on distant markets.

As already noted the entire region has an area of approximately 47,000,000 acres. The Peace River Block, for which detailed data regarding land utilization are not available, has an area of 3,500,000 acres. In the Alberta section of the Peace River, which has an area of 43,500,000 acres, a total of approximately 1,000,000 acres was in occupied farms in 1926,⁶ the year of the latest census of Alberta agriculture.

TABLE I
CLASSIFICATION OF LAND IN OCCUPIED FARMS
Improved Land

Use of Land	Acres	Percentage	Percentage of total
Field crops.....	261,745	73	
Idle or fallow.....	90,178	25	
Pasture.....	4,515	1	
Other.....	3,903	1	
Total improved.....	360,341	100	34

Unimproved Land

Natural Condition	Acres	Percentage	
Natural pasture.....	497,908	71	
Woodland.....	145,554	21	
Marsh or waste.....	54,294	8	
Total unimproved.....	697,756	100	66
Total in occupied farms.....	1,058,097		100

The alienated land on both sides of the interprovincial border comprises a number of settlements (Fig. 2) which lie, for the most part, along existing railways or along the routes of projected extensions. The settlements include those which focus on and take their names from Grande Prairie, Beaverlodge, Pouce Coupé, Spirit River, Peace River, Falher, and Grouard. Considering, for the reason noted, the Alberta settlements only, Table I gives a classification of land in occupied farms in 1926.⁷

⁶ *Census of Alberta, 1926*, Dominion Bureau of Statistics, Canada.

⁷ *Ibid.*

In the year indicated 2.4 per cent of the total area was in occupied farms. One-third of the land in those farms was improved, the remainder being still in the raw state. Of the improved land nearly three-fourths of the whole was in field crops (Fig. 3), and one-fourth was idle or fallow. Of the wild land more than 70 per cent was natural pasture, and about 20 per cent woodland.

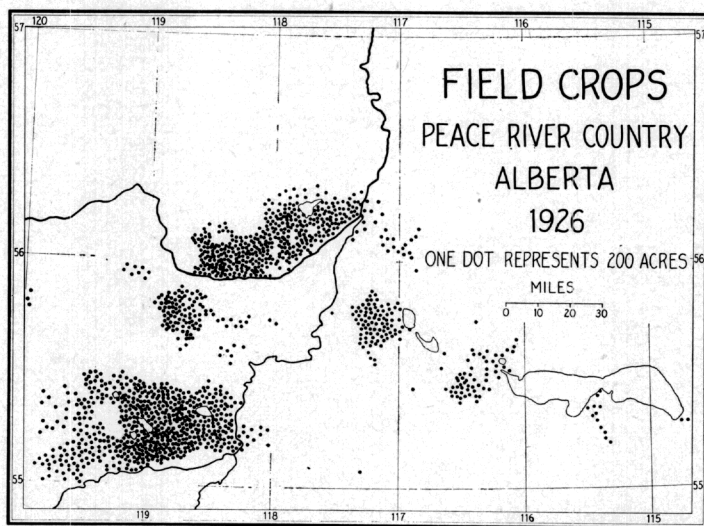


FIG. 3.

Table II shows the distribution of the total acreage in field crops among the major crops grown in 1926. Wheat, all but 600 acres being

TABLE II
FIELD CROPS

Crop	Acres	Percentage
Wheat.....	138,781	53.0
Oats.....	95,058	36.3
Fodder crops.....	17,000	6.5
Barley.....	7,365	2.8
Rye.....	2,263	0.9
Roots and potatoes.....	755	0.3
Mixed grains.....	437	0.2
Others.....	86	0.03
Total.....	261,745	100.0

spring wheat (Fig. 4), occupied an acreage slightly greater than that of all other field crops combined. About 36 per cent of the crop land was devoted to the production of oats (Fig. 5). The remaining 10 per cent of the land in field crops was divided chiefly among other grains, several varieties of hay, and roots and potatoes.

The proportion of the acreage of all field crops planted to grain, especially to spring wheat and to oats, indicates the notable extent to which Peace River agriculture is a grain-growing industry; and the export figures, noted above, give evidence of the fact, strikingly patent to an observer in the region, that the economic life of the Peace River

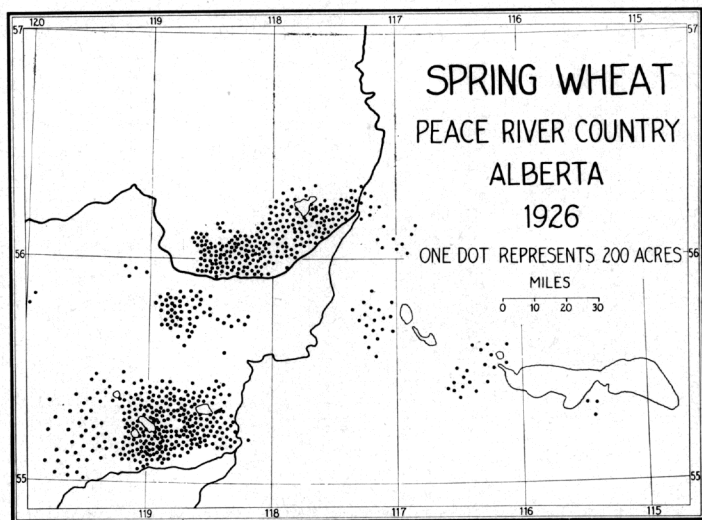


FIG. 4.

frontier is based on commercial grain-farming, spring wheat being the principal crop. It is evident also that stock raising is carried on to some extent, but that industry is, in most parts of the area, of relatively minor importance.

Though the production of wheat and oats is the main agricultural objective throughout the region, there are local variations⁸ in the proportion of land devoted to different crops. Land utilization in the Spirit River district, for example, exhibits the high proportion of land in wheat and oats and the low percentage in pasture and idle land commonly occurring in the older settlements which have had adequate railway facilities for a number of years.

⁸ The generalizations which follow are based on field surveys. It is planned to publish at a later date detailed maps of the areas indicated.

The large proportion of farm land in pasture grasses in the Valhalla community,⁹ on the other hand, is indicative of a well-established dairy industry in a settlement which until 1929 was handicapped by a long haul to a railway shipping point. Dairy production by the Scandinavian colony was undertaken on account of the difficulty experienced in maturing wheat due to the prevalence of early frosts in the Valhalla district. The frost hazard probably was increased over that of the Grande Prairie district, for example, by air drainage from the Saddle Hills which rise immediately to the north of the settlement, and by the

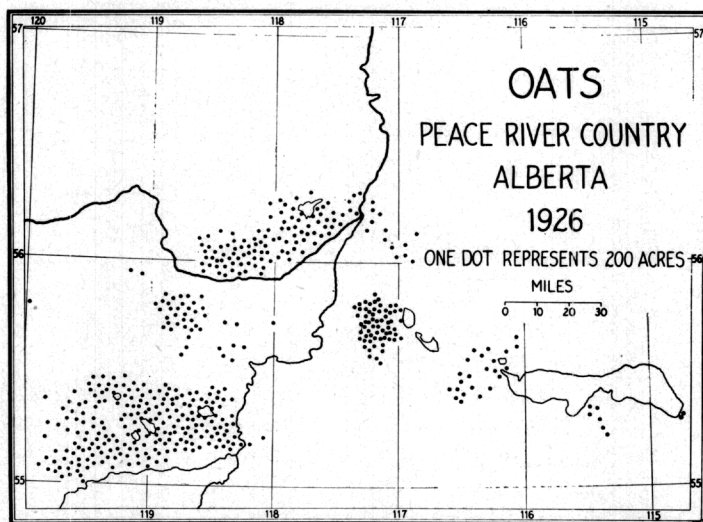


FIG. 5.

absence of ravines leading from the area down to deeply intrenched streams. The frost hazard was further increased by an unsystematic procedure in the reclamation of brush land which created numerous islands of crop land surrounded by heavy brush. Colder air, accumulating in these "frost wells," greatly increased the danger of early frost. In Finland, on the other hand, it is common practice to reduce the frost hazard by clearing land in strips with the longer axis of the reclaimed land parallel with the direction of the prevailing wind, thus facilitating the flow of air through the clearing.¹⁰

The Peace River Country is, in general, an extensive plain which rises like a plateau with even sky-line above the deep trenches of the

⁹ North of the island of crown land which lies between the Grande Prairie and Beaverlodge settlements.

¹⁰ EUGENE VAN CLEEF, *Finland—The Republic Farthest North*, p. 34.

Peace River and its principal tributaries. The plain is broken by several ranges of low hills, a number of which have been withheld from homestead entry as proposed forest reserves. The settlements are, for the most part, gently rolling to rolling areas with but a small percentage of the land too steep for the plow, except near the courses of the larger streams where, in many instances, the plain is deeply dissected for miles from the main valleys. The amount of valley-bottom land available for agriculture is negligible.

The drainage of the farm land of the region is in general satisfactory. The precipitation is light, and the depth and ramifications of the many valleys facilitate run-off. Small lakes are fairly numerous, but in the majority of cases observed the land was cultivable to within a short distance of their margins. In dry years the crop land near the ravines and larger valleys is likely to show the effects of over-drainage.

Notwithstanding the occurrence of place names such as Grande Prairie, High Prairie, Big Prairie, Little Prairie, etc., the Peace River frontier is by no means a prairie region. The area may be characterized rather as park land, shading into timber land with a dense stand of sizable trees. Small areas have an overburden of only light scrub, but by far the greater part of the land now available for homesteading carries a close growth of bush vegetation, consisting chiefly of aspen with, in places, an admixture of spruce.

It is evident that land clearing is prerequisite to farming, and this circumstance is of prime significance in the settlement of the region under consideration. The ordinary homesteader has little capital, and proceeds to chop out a farm from the aspen wilderness. Progress under such conditions is likely to be slow.

In practice the prospective settler's choice of land is based primarily on the known or reputed character of the natural vegetation involved, as evidenced by the case of the Pouce Coupé settlement in which the distribution of occupied farms coincides very closely with the areas of light clearing.

In the selection of land on the basis of clearing liabilities little attention is paid, in perhaps the majority of cases, to the type of soil involved. Citing the case of the Pouce Coupé settlement again, it is evident that the settlers of that area, in choosing land relatively easy to clear, secured a considerable variety of soils. In other words, while the distribution of occupied farms and land requiring only light clearing present a positive correlation, a definitely negative correlation exists between the distribution of those holdings and the soil types occupied. The soils being utilized range from fine sandy loams through sandy loams, loams, and clay loams to heavy clays. The majority of the farms

are on sandy loam soils. These light soils are easy to work, but the number of years they will produce profitably under present frontier methods of farming is problematic. There is relatively little black prairie soil in the Peace River Country. Brownish, park land soils are most widespread, but they are by no means continuous. Soils vary greatly within short distances and the unwary settler may find himself located on sterile white clay within sight of fertile park land loam.

In view of the agricultural productiveness of the region, indicated in an earlier connection, climatic conditions would appear to be favorable to the type of farming being carried on. It is claimed, indeed, that the variability of summer precipitation and the early frost hazard are less than in parts of Alberta much farther south.

Meteorological records compiled for twelve years by W. D. Albright¹¹ at Beaverlodge indicate an average of three months, June, July, and August, with a mean temperature above 50°F. and reaching 60° F. in July. The annual precipitation amounts to 16.5 inches, nearly half of which falls from May to August, inclusive. The mean annual snow-fall totals 70.2 inches, affording sleighing conditions for an average of 134 days a year. The sunshine record indicates an average for five years of 2,100 hours of sunshine, with 289 hours in July and 70 hours in December. The average length of the growing season, that is, the "number of days from average date of seeding to average date of first frost"¹² is approximately 120 days. In certain areas, including the Falher and Peace River districts, the period slightly exceeds 130 days.

The agricultural development of the Peace River frontier is going forward rapidly, not only in the winning of raw land to the plow, and the adaptation of production methods to the natural conditions of the region, but in the improvement of living conditions.

With his crop produced, however, the farmer faces one of his most serious handicaps in the marketing of his exportable surplus. In placing his wheat on board ship at Vancouver, the Peace River farmer is penalized, in comparison with the producer in the Edmonton district, by a distance of 300 miles to 400 miles. Moreover, that distance also increases materially the cost of imported commodities. Surveys are now being made, however, looking toward the eventual extension of the present Peace River railway net to provide the settlements with a more direct route to the Pacific, either by way of the Canadian National line to Prince Rupert or by a new route leading west to tidewater north of that port.

¹¹ *Op. cit.*, p. 8.

¹² *Physical and Climatic Map of Manitoba, Saskatchewan and Alberta*, Department of the Interior, Canada.