



SASKATCHEWAN AGRICULTURE - THE PHYSICAL BASE

UNTIL, comparatively recent times, the Canadian prairie was an unknown and untouched hinterland, inhabited by scattered Indian bands and vast herds of buffalo. The infrequent explorers who penetrated the region during the 17th and 18th centuries regarded it only in terms of the fur trade. Not until the early part of the 19th century did agriculture commence with the establishment of the tiny Selkirk settlement on the site of what is now the city of Winnipeg. It was only in the latter half of that century that the prairies began to be regarded as a potential agricultural area, and not until the last fifty years that they were finally settled in one of the more spectacular population movements of recent history.

Today, Saskatchewan, in the center of the prairie provinces, has a predominantly agricultural economy and is a prolific producer of grains and livestock. Of its total land area of over 150 million acres, almost 62 million acres are now contained in farms which annually produce from one-fifth to one-quarter of Canada's agricultural output and sustain, directly or indirectly, a provincial population of three quarters of a million people.

I. THE GEOGRAPHY OF SASKATCHEWAN

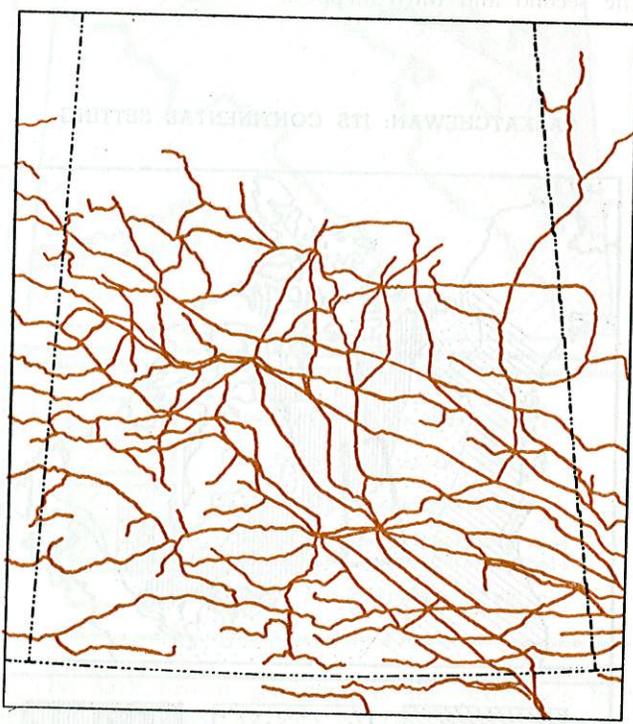
Much of the interior of North America consists of the Great Central Plain, a vast sedimentary basin extending from the Arctic Ocean to the Gulf of Mexico and enclosed on the west by the high peaks of the Rocky Mountains, on the north-east by the Canadian Shield, and on the east by the Mississippi Valley. Saskatchewan is located in the northern part of this region, with somewhat more than half of its

area, and all of its agricultural land, lying within the plain while the remainder of the Province extends north into the Canadian Shield.

THE PRAIRIE SETTING

The Prairie Provinces as a whole form a region that is distinct both geographically and economically. Cradled between two formidable land barriers, remote from large concentrations of population, and far

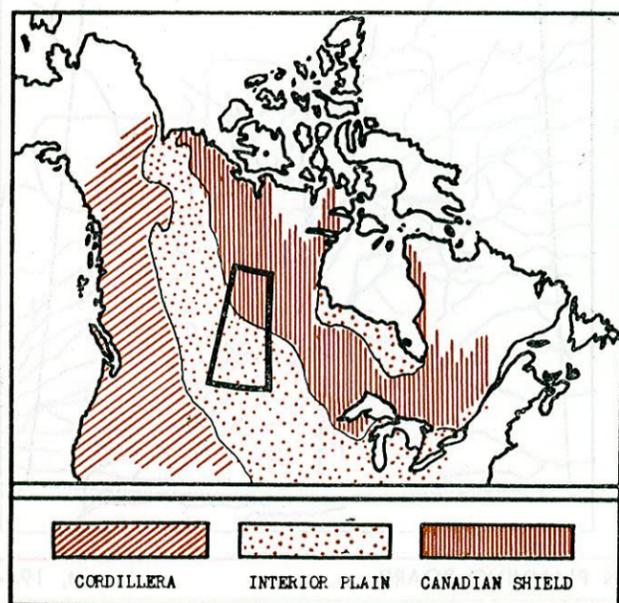
RAIL NETWORK IN SASKATCHEWAN



from outlets to the sea, they have required a substantial investment in transportation facilities to enable farm produce to reach the export markets essential to their well being. The result has been to compel the adoption of the extensive, rather than intensive, type of agriculture which is characteristic of the region today.

The Prairie Provinces contain all of the Canadian portion of the Great Central Plain except the Mackenzie River Valley. The Plain is cut in numerous places by deep valleys whose rivers are fed by mountain snows and glaciers which provide a flow of water for most or all of the year. The major rivers rise in the Rocky Mountains, flow eastward across the Plain, and spill through the broken terrain of the Canadian Shield to empty finally into Hudson Bay. The whole of the Plain slopes eastward and to the north, and from the base of the Rockies to Lake Winnipeg, the fall averages more than five feet per mile. Nevertheless there are numerous areas where the drainage is poor or where only internal drainage exists. Three levels of the Plain can readily be distinguished and are known as the first, second and third prairie steppes. They extend from the low, flat area of the Red River Valley in Manitoba to the third steppe which reaches to the foot of the Rockies in Alberta. Saskatchewan's agricultural lands lie in the second and third steppes.

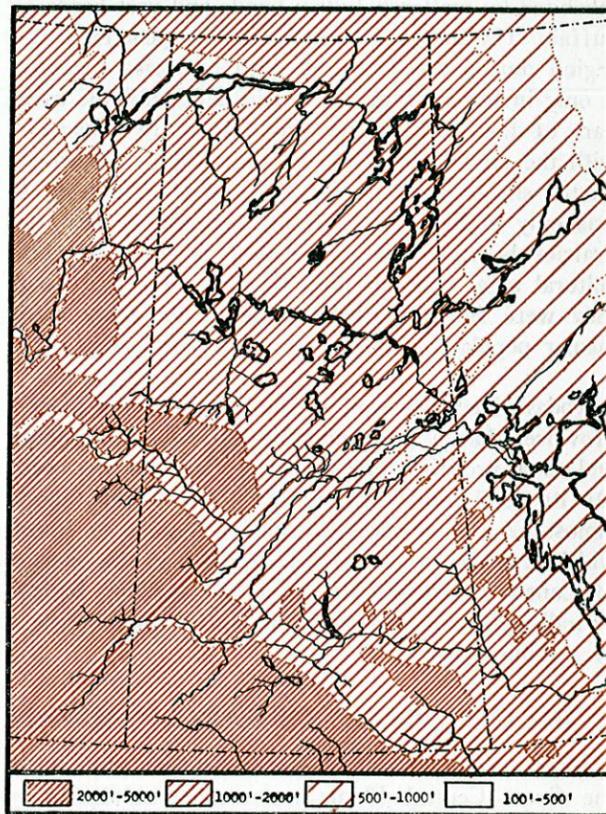
SASKATCHEWAN: ITS CONTINENTAL SETTING



THE PROVINCE

Within Saskatchewan, the area suitable for agriculture lies south of a line angling across the province slightly to the north of the city of Prince Albert. Beyond this is the non-agricultural muskeg, forest, and exposed Pre-Cambrian rock of the Shield. To the south the land is for the most part gently undulating or flat and offers an abundance of productive soil. It is, however, far from uniformly productive. In the southwest is the shortgrass prairie, and in successive bands stretching diagonally across the province from the northwest to the southeast there occur the mixed, or long grass prairie, the transitional parkland, and the forest area which continues on into the non-agricultural region.

GENERAL TOPOGRAPHY — SASKATCHEWAN



The climate is typically continental: the summers are hot and dry, the winters are frequently long and rigorous, and there is little precipitation. Saskatchewan experiences a mean summer temperature ranging from 57 degrees to 63 degrees Fahrenheit and the growing season extends from 90 to 120 days. Rainfall varies approximately between 10 and 20 inches.

The soil, temperature, and precipitation are combined in such a manner as to create a distinctive but not a unique environment. In fact, Saskatchewan's agricultural region, with its semi-arid to sub-humid climate, limited vegetation, fertile soil, and level topography, is comparable in many respects to the pampas of the Argentine, the steppes of Russia, the South African veldt, and the Central European Plains.

II. PHYSICAL ATTRIBUTES OF THE AGRICULTURAL REGION

While the character of farming differs from region to region with differing combinations of physical resources and economic environment, of the two factors it is the physical one which plays a primary and perhaps more self-evident role. Soil, topography, and climate are decisive in their impact on the farming pattern.

The soils of Saskatchewan are of several basic types and occur in fairly well defined zones as a result of glacial action and the deposition of sediment during periods of inundation. The topography generally is favorable. However, where it interferes with drainage it renders land unfit for agriculture until it is ditched and adequately drained. Rolling land, on the other hand, is frequently susceptible to erosion and may also be unsuited to cultivation.

The two factors of precipitation and temperature operate to establish the absolute limits of crop production. Rainfall is heaviest in the southeast—and lightest in the southwest. Sunlight, and hence evaporation, are strongest in the southern areas, reducing the amount of moisture available for plant growth; consequently the southwest contains the least vegetation. In general, the areas of limited moisture constitute the grasslands while the areas of more abundant moisture coincide with the parklands and forest belt.

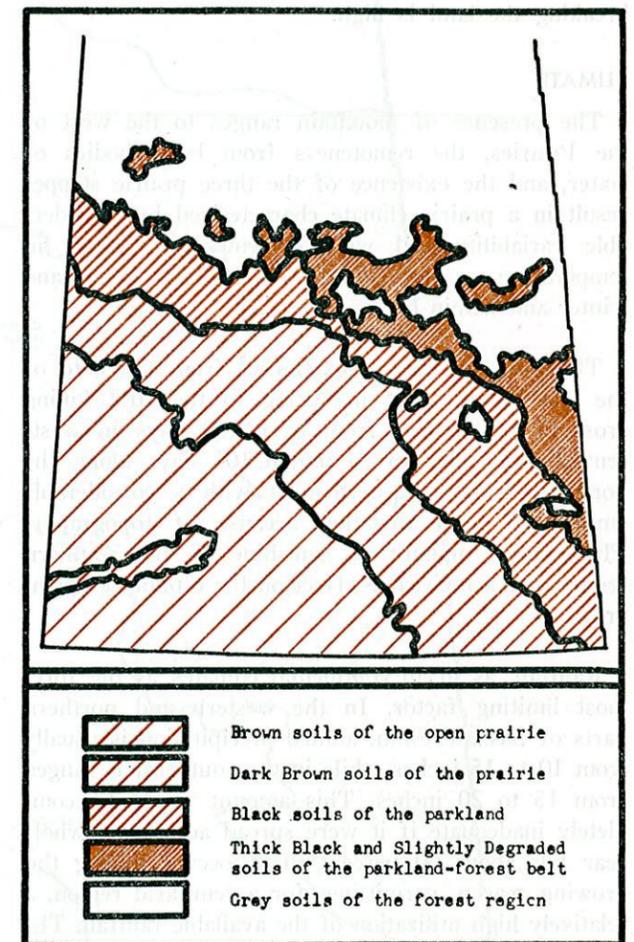
Vegetation is a product of soil and climate, but because it determines the amount of organic matter returned to the soil, reacts upon it in turn by affecting its productivity.

SOILS

The soil is the basic raw material of an agricultural economy and the manner of its use determines, to a great extent, the prosperity of the agriculture it sustains. While Saskatchewan has a great diversity of soil types, most of them are highly productive, producing excellent crops with even a limited amount

of rainfall. The four major soil zones are indicated on the map below. The brown soil zone comprises 20 million acres, of which 6 million are classed as arable. This is the true prairie, the short grass country, and here the large grazing areas are found. It is wholly grassland, except for such small wooded spots as the Cypress Hills, Wood Mountain and the southern banks of the deeply trenched river channels. In this zone, over half of the land still remains in native grass. Precipitation is not heavy and evaporation is high. The economy is based on the production of wheat on the better lands, and on the use of the poor land for grazing. Over two million acres of submarginal land in this zone were abandoned during the drought period of the thirties.

PRINCIPAL SOIL ZONES — SASKATCHEWAN



The dark brown soil zone is the province's best wheat land. It has an area of 18.5 million acres of which 12.0 million acres are classed as arable. Rainfall is slightly heavier than in the brown soil zone and

evaporation is considerably less, so that there is a more efficient use of the moisture that falls on it.

The black soil zone has some 19 million acres, of which 12.5 million are arable. In this area mixed farming predominates and there is seldom a crop failure due to lack of moisture. Farms are smaller, with a resulting greater density of rural population than in the other two zones. Frost-free periods are not as long as in other parts of Saskatchewan and harvest weather is often unfavourable. These conditions lend themselves to the production of coarse grains as well as hay and pasture for livestock.

The grey soil zone contains about 31 million acres, of which 10 to 20 per cent are arable and suitable for settlement. It is not easily settled, however, for this zone is heavily treed and the cost of clearing and breaking the land is high.

CLIMATE

The presence of mountain ranges to the west of the Prairies, the remoteness from large bodies of water, and the existence of the three prairie steppes result in a prairie climate characterized by considerable variability and wide extremes. Variations in temperature are pronounced both between summer and winter and within each season.

The growing season, extending from the date of the last killing frost in spring to the first killing frost in fall, varies from over 120 days in west-central Saskatchewan to under 105 days along the northern fringes of settlement with a considerable amount of local variation because of topography. The greater amount of sunshine in the southern regions has a noticeable effect on the rapidity of plant growth.

Rainfall, as in all continental climates, is the foremost limiting factor. In the western and northern parts of Saskatchewan, annual precipitation is usually from 10 to 15 inches while in the southeast it ranges from 15 to 20 inches. This amount would be completely inadequate if it were spread across the whole year but about 60 percent of it occurs during the growing season, permitting, for a semi-arid region, a relatively high utilization of the available rainfall. The great variability in both the extent and quantity of summer rain, together with the frequent occurrence of hot dry spells constitutes the major hazard to Saskatchewan agriculture. The hazard decreases northward as the evaporation rate diminishes and permits the

selection of a wider choice of crops in the parkland regions.

TOPOGRAPHY

The greater part of the occupied farm lands are gently undulating in character, providing adequate drainage with little danger of erosion. In some areas, special conditions do arise due to topography. In the hilly regions such as the Cypress Hills in the south-west and Wood Mountain in the south, only grazing can be carried on, while in a number of moderately hilly areas scattered through the province, extensive cultivation is impractical and special care must be taken to avoid erosion. On the other hand in the extremely flat and level areas such as the Regina Plains and the Carrot River Valley, farming operations are often handicapped by the lack of drainage. For the most part however, where good cultural practice is followed, topographical problems are absent.

NATIVE VEGETATION AND INTRODUCED SPECIES

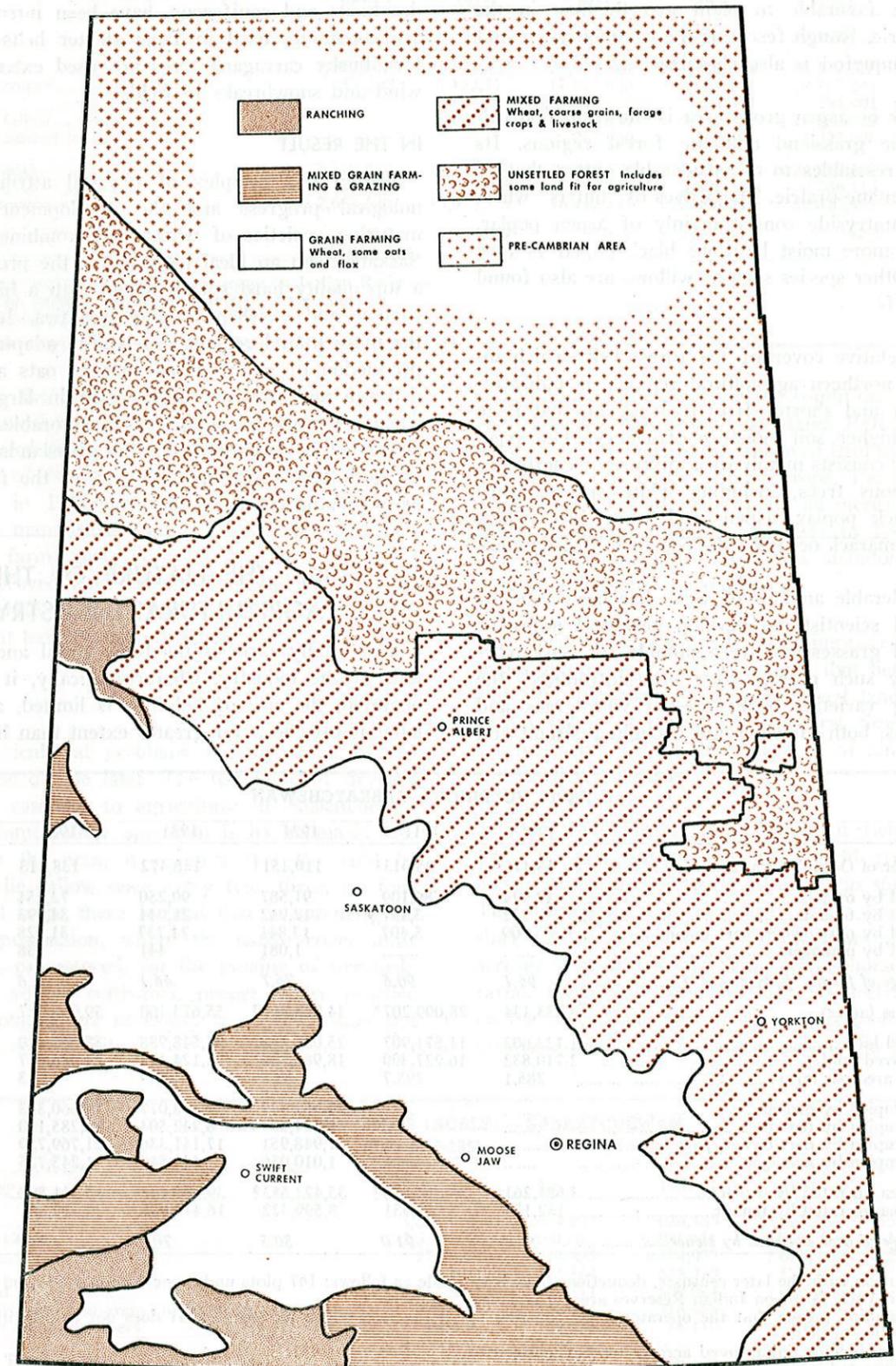
Two major divisions of native vegetation have been recognized in Saskatchewan—the grassland and the forest belt. The grassland may be further separated into the short grass prairie, the mixed prairie, and the park or aspen grove area. These divisions correspond to broad variations in climate and soil moisture efficiency and are also related to the major soil zones.

The short grass prairie occupies the south-western section of the province which contains the more arid section of the Brown Soil Zone. Its native cover consists chiefly of blue gamma grass which is associated with various other species, notably common spear grass, western wheat grass, June grass and Sandberg's blue grass. Sedge, sage, and prickly-pear cactus are often found. Trees are absent except in moist sheltered locations or on land possessing a high subsurface water table.

The mixed prairie region is divided between the Brown and Dark Brown Soil Zones. It has both short and medium tall grasses which reflect the more favorable growth conditions. Most of the grasses found in the short grass prairie are also present in the mixed prairie, but they occur in different proportions and are generally taller. There is also a considerable amount of other growth including wild roses, willow and aspen.

The sub-montane prairie, associated with the parkland area, occupies a small part of the grasslands

MAIN TYPES OF FARMING IN SASKATCHEWAN



area and occurs in locations such as the upper elevations of the Cypress Hills. The climate here is somewhat more favorable to plant growth than in the mixed prairie. Rough fescue is the common grass and shrubby cinquefoil is also characteristic.

The park or aspen grove area is the transition belt between the grassland and the forest regions. Its vegetation resembles to a considerable extent that of the sub-montane prairie. The groves of "bluffs" which dot the countryside consist mainly of aspen poplar, but in the more moist locations black poplar is very common. Other species such as willows are also found in the bluffs.

The vegetative cover of the forest belt, which includes the northern agricultural regions, is indicative of a cooler and shorter frost-free season, that is to say, of a higher soil moisture efficiency. The vegetative cover consists mainly of a mixture of coniferous and deciduous trees, including white spruce, black spruce, black poplar, aspen, and white birch. Jack pine and tamarack occur on the poorer soil formations.

A considerable amount of work has been done by agricultural scientists to develop new and improved varieties of grasses and trees suitable for Saskatchewan. Many such grasses have been introduced, the outstanding varieties being crested wheatgrass and brome grass, both of which are drought resistant and

have been found to be eminently suited to Saskatchewan soils. A number of new tree varieties, both deciduous and coniferous, have been introduced and are commonly used in farm shelter belts while the low, bushy carragana trees are used extensively for wind and snowbreaks in fields.

IN THE RESULT

Within this complex of physical attributes, technological progress and the development of early maturing varieties of wheat have combined to make Saskatchewan an ideal location for the production of a top quality hard spring wheat with a high protein content and excellent milling qualities. In addition, the more humid regions are readily adaptable to the production of other grains such as oats and barley, and rye and flax are also grown in large quantity whenever market conditions are favorable. Ranching is carried on extensively in the grasslands area, and livestock forms an important part of the farm enterprise in other parts of the province.

III. THE NATURE OF THE AGRICULTURAL INDUSTRY

The family farm is the basic social and economic unit of the industry. Characteristically, it is owner-operated, the size of holdings is limited, and family labor is used to a far greater extent than hired labor.

FARM HOLDINGS — SASKATCHEWAN

	1901	1911	1921	1931	1941	1951
Total Number of Occupied Farms.....	13,445 ¹	95,013 ¹	119,451 ¹	136,472	138,713	112,018
Operated by owner.....	12,924	86,109	91,587	90,250	72,954	61,157
Operated by tenant.....	212	3,497	12,942	21,044	34,093	16,495
Operated by part owner, part tenant.....	309	5,407	13,841	24,737	31,028	33,760
Operated by manager.....	.....	.....	1,081	441	638	606
Percentage of farms "fully owned" ²	96.1	90.6	76.7	66.1	52.6	54.6
Area in Farms (acres).....	3,833,434	28,099,207 ³	44,022,907 ³	55,673,460	59,960,927	61,663,195
Improved land.....	1,122,602	11,871,907	25,037,401	33,548,988	35,577,320	38,806,770
Unimproved land.....	2,710,832	16,227,300	18,985,506	22,124,472	24,383,607	22,856,425
Average area per farm.....	285.1	295.7	368.5	407.9	432.3	550.5
Area occupied by owner.....	.....	.....	29,981,942	29,848,077	23,660,313	24,381,939
Area occupied by tenant.....	.....	.....	5,034,293	8,242,504	13,285,130	7,955,274
Area occupied by part owner, part tenant.....	.....	.....	7,948,951	17,141,336	21,769,759	27,393,599
Area occupied by manager.....	.....	.....	1,010,056	441,543	1,245,725	1,932,383
Total area operated by owner ⁴	3,681,261	25,557,276 ³	35,423,585 ³	39,226,472	35,641,592	40,363,086
Total area operated by tenant.....	152,173	2,541,931	8,599,322	16,446,988	24,319,335	21,300,109
Percentage of area operated by owner.....	96.0	91.0	80.5	70.5	59.4	65.5

¹ For comparison with the later censuses, deductions have been made as follows: 167 plots under one acre in 1901, and 317 in 1911. In 1911 and 1921, farms on Indian Reserves are not included.

² "Full ownership" means that the operator holds the title to all the land which he operates. It does not necessarily mean that the farm is free of debt.

³ Area does not include unimproved acreage on Indian Reserves.

⁴ Includes "operated by a manager".

CONDITION OF OCCUPIED FARM LAND — SASKATCHEWAN

	1901	1911	1921	1931	1941	1951
Area in Farms.....	3,833,434	28,099,207 ¹	44,022,907 ¹	55,673,460	59,960,927	61,663,195
Improved Land.....	1,122,602	11,871,907	25,037,401	33,548,988	35,577,320	38,806,770
Under crops ²	657,208	9,152,117	17,822,620	22,128,952	19,767,341	23,705,575
Pasture.....	.....	.....	215,254	712,371	783,901	1,441,015
Summer fallow.....	.....	1,088,995	6,714,477 ³	9,941,357	13,803,088	12,855,394
Other improved land.....	.....	.....	285,050	766,308	1,222,990	804,786
Unimproved land.....	2,710,832	16,227,300	18,985,506	22,124,472	24,383,607	22,856,425
Woodland.....	53,212	304,039	2,243,191	3,508,480	2,566,115	2,945,167
Other unimproved land.....	2,657,620	15,923,261	16,742,315	18,615,992	21,817,492	19,911,258
Percentage of farm area improved.....	29.3	42.2	56.9	60.3	59.3	62.9

¹ Area does not include unimproved acreage on Indian Reserves.

² Includes field, garden, orchard and nursery crop land.

³ Includes idle land.

Throughout the past fifty years there has been a consistent trend toward larger farms, and this trend has accelerated since 1941. During most of that time the number of farms also increased, reaching a peak of 142,391 in 1936. Since 1941 a sharp drop has occurred as many small holdings have been absorbed into larger farm units. The total area both of farms and of improved land has grown steadily, but at a decreasing rate in more recent years as the limits of settlement have been approached.

LAND USE

Many agricultural problems are the result of the incorrect use of the land. The technique of dryland farming is essential to agriculture in Saskatchewan and the summerfallow operation is its hallmark. Depending on the area, it requires that the land be allowed to lie fallow once every two, three, or four year. In all areas there is land that is sub-marginal for grain production, where the native cover must be retained, or restored, for the grazing of livestock. Where the soil is cultivated, proper tillage practice and crop rotation are necessary to avoid erosion and to maintain soil fertility.

The above table describes the condition of occupied farm land for the census years from 1901 to 1951. It shows a steady increase in improved land as well as an increase in the acreage under crops. Percentagewise, improved farm land again shows an increase with the exception of the decade from 1931 to 1941 when a considerable amount of land was abandoned due to drought and economic conditions.

In 1951 over one third of all improved land was under summerfallow. It is notable that between 1941 and 1951 the quantity of unimproved land contained within farms decreased for the first time, again as a consequence of the disappearance of land available for further settlement.

Wheat, of course, is the dominant field crop. In 1951, 66 per cent of the entire field crop acreage was in wheat, and virtually all of it was spring wheat. This percentage has remained fairly constant ever since 1921 except during the war years when wheat acreage was restricted. With fewer horses now on farms, the acreage sown to oats has declined. Barley on the other hand has shown a considerable increase due to a high export demand and to its greater use

AREA OF FIELD CROPS (ACRES) — SASKATCHEWAN 1911-1951

Field Crop	1911	1921	1931	1941	1951
Wheat.....	5,255,914	11,684,292	15,026,185	12,194,866	15,634,917
Oats for Grain.....	2,332,802	4,860,202	4,294,934	4,025,664	3,815,268
Barley.....	273,988	419,893	1,374,972	1,658,947	2,448,738
Rye.....	2,271	274,564	528,289	526,782	709,894
Flax Seed.....	1,153,861	369,371	509,074	688,905	295,893
Hay (cultivated and grain cut for hay).....	48,888	132,944	318,465	563,849	736,373
Mixed Grains and Others.....	69,144	81,215	74,410	76,283	55,210
Total Area.....	9,136,868	17,822,481	22,126,329	19,735,296	23,696,293

in feeds. In the early settlement period, a considerable amount of newly broken land was seeded to flax, but the acreage today is less, and is highly responsive to price changes.

FARM CAPITAL

By 1951, close to two billion dollars had been invested in Saskatchewan farms. Farm capital consists of three major components—land and buildings, livestock, and implements and machinery. Available statistics do not distinguish between values of land and buildings, and these items are treated jointly.

A breakdown of capital into these categories suggests some of the major changes that have taken place over the past fifty years.

The most vigorous period of land settlement spanned the two decades between 1901 and 1921, and this activity, together with the inflated prices that accompanied it, was reflected in the large increase in land and building values up to 1921. In subsequent years, values declined as the post-war prosperity came to an end. The decline continued until shortly after the beginning of the second world war, when land values again began to rise and were followed in the second post-war period by improvements made to farm buildings.

Livestock has always formed an important segment of Saskatchewan's agricultural economy, not only in the southwest, but in the parkland and transition soil areas as well where it is an essential supplement to

farm operations. In 1951, it constituted over 14 per cent of total farm values and generally has ranged between 10 and 15 per cent. The absolute increase in value between 1941 and 1951 was due wholly to the appreciation of livestock prices.

The livestock population reached a peak during the last war and successive records were established with 1¾ million hogs in 1943, over half a million sheep in 1944, and almost two million head of cattle in 1945.

NUMBER OF LIVESTOCK IN SASKATCHEWAN

Year	All Cattle	Sheep and Lambs	Hogs
1911	633,600	114,200	286,300
1921	1,295,900	194,700	419,700
1931	1,188,900	281,000	949,000
1943*	1,602,000	463,000	1,754,600
1944*	1,885,700	530,900	1,599,400
1945*	1,979,200	513,200	1,006,600
1946	1,499,000	334,600	523,300
1947*	1,511,300	285,300	558,300
1948*	1,436,500	253,300	396,100
1949*	1,254,100	234,100	458,600
1950*	1,214,400	237,000	433,700
1951	1,274,900	136,100	533,300
1952	1,382,000	155,000	846,000

* Subject to revision

Horses are no longer an important part of the farm livestock population. They provided the major source of power on farms during the early period of settlement, but with the increasing adoption of mechanized equipment, their number decreased from a high of 1,100,000 in 1926 to 280,000 in 1952.

FARM CAPITAL—SASKATCHEWAN

(in dollars)

	1901	1911	1921	1931	1941	1946	1951
Total Value.....	44,460,874	832,812,560	1,650,069,196	1,272,662,978	896,013,231	1,230,906,000	1,991,773,250
Land and Buildings.....	28,057,949	659,557,387	1,276,908,274	989,143,500	657,593,800	882,140,000	1,182,905,467
Average per farm.....	2,087	6,942	10,690	7,248	4,741	.....	10,560
Average per acre.....	7	23	29	18	11	.....	19
Implements and Machinery.....	3,882,029	57,538,712	176,675,721	185,510,500	142,754,400 ¹	223,463,000	525,644,660 ¹
Average per farm (based on all farms).....	289	606	1,479	1,359	1,029	.....	4,693
Average per acre (based on all farms).....	1	2	4	3	2	.....	9
Livestock.....	12,520,896	115,716,461	196,485,201	98,008,978	95,665,031	125,303,000	283,223,123
Average per farm (based on all farms).....	931	1,218	1,645	718	690	.....	2,528
Average per acre (based on all farms).....	3	4	4	2	2	.....	5
Percentage of value of Implements to Total Value.....	8.7	6.9	10.7	14.6	15.9	18.2	26.4

¹ Includes automobiles.

FARM MACHINERY—SASKATCHEWAN

	1931		1941		1946		1951	
Automobiles.....	65,094	62,568	57,093	55,767	58,022	57,326	62,963	60,916
Tractors.....	43,308	39,434	54,129	51,353 ¹	71,596	66,218	106,664	90,307
Motor Trucks.....	10,938	10,559	21,285	20,225	27,756	26,674	52,626	49,277
Gasoline Engines.....	38,549	32,096	33,882	27,935	43,062	34,662	55,763	41,630
Threshing Machines.....	27,046	26,722	21,486	21,311	.....	.....	19,221	19,105
Grain Binders.....	129,177	98,676	.....	.....	.....	.....	70,584	65,156
Grain Combines.....	6,019	5,919	11,202	10,822	22,498	21,851	42,997	41,215
Electric Motors.....	1,702	1,426	1,708	1,267	6,891	3,761	12,711	6,877

¹ Includes duplication where farms had tractors under 15 h.p. and 15 h.p. and over.
Note.—Figures in italics denote the number of farms reporting.

The value of implements and machinery (including automobiles) has increased each decade with the exception of the depression years. The most spectacular increase occurred during the ten years from 1941 to 1951 when it rose by 268 per cent. For 1953 the value of implements and machinery is estimated to be \$620 million.

The mechanization process had already commenced in the 1920's but the pace in the post-war period has been the result of a backlog of demand created by the lack of purchasing power during the depression, and by the lack of supply during the war. The accumulated backlog has now been absorbed but continuing demand is expected to be substantial, both because of normal replacement needs and the pressure of technological innovation as implements become better adapted to Saskatchewan farming conditions.

Tractors, motor trucks and combines have shown the largest gains in recent years. The number of tractors in the province increased by almost 100 per cent between 1941 and 1951, and in the latter year over 80 per cent of the farms had one or more tractors. In the same year there were almost four times as many combines as in 1941, while the number of farm motor trucks almost doubled between 1946 and 1951. These increases, together with a recent sharp rise in the number of electric motors on farms, outline the salient features of the mechanization process on Saskatchewan farms.

Since 1951 there has been a further growth in the stock of farm machinery, and the wholesale value of new machinery and equipment sales has risen in each of the post-war years from \$18 million in 1945 to almost \$76 million in 1952.

RURAL ELECTRIFICATION

An important development currently underway is the province's extensive program of rural electrifica-

tion. It will have a significant impact on agriculture in two ways. In the first place, it will contribute materially toward the further mechanization of the industry, particularly in the case of farms producing livestock. Secondly, it is one of the factors contributing to the raising of rural living standards by making possible many of the amenities of life that formerly were the exclusive possession of urban dwellers.

The program is well advanced, and by the end of 1953 a total of 19,000 farms were connected to power lines as compared with a scant 138 farms ten years earlier. Present plans call for the connection of 6,500 farms in the current year, and 7,500 each year thereafter, with the expectation that 55,000 farms will have been served by the end of 1958.

IV. PRODUCTION

Agriculture's contribution to total production has been notable. The latest figure for 1951, shows that the net value of agricultural production was in excess of \$700 million, or more than 80 per cent of the total net production of the province.

The grain crop is a major part of agricultural output not only for Saskatchewan but for Canada as a whole. The 1953 production of wheat was exceeded only in 1952 when a record 435 million bushels of wheat was harvested. For the ten years from 1944 to 1953, wheat production averaged over 257 million bushels, which is substantially higher than the 49 year average of over 172 million bushels. Total production has increased steadily due to a larger acreage, and, in recent years, to more effective methods of cultivation and improved varieties of wheat.

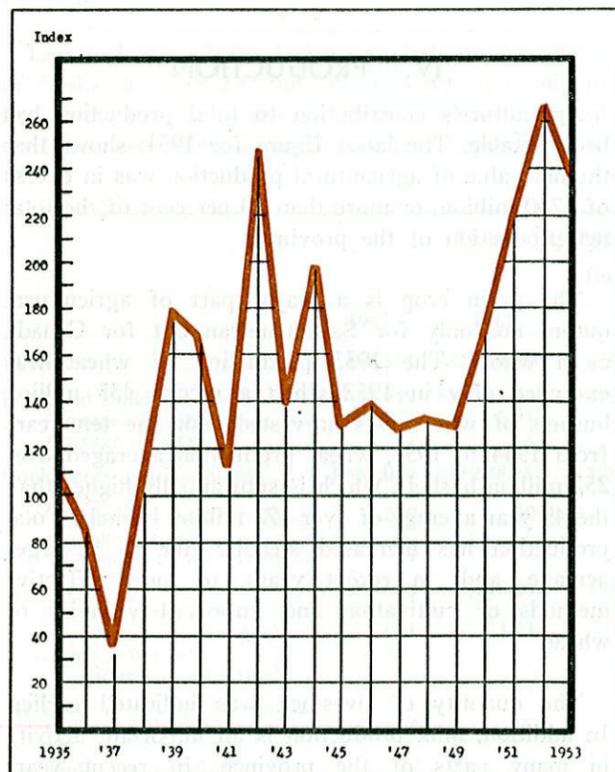
The quantity of livestock was indicated earlier. In addition, milk production is an important activity in many parts of the province. In recent years

PRODUCTION OF PRINCIPAL FIELD CROPS
SASKATCHEWAN 1943-1953 (000 bushels)

Year	Spring Wheat	Oats	Barley	Rye	Flax
1943	146,000	200,000	80,000	3,800	11,500
1944	242,100	198,000	72,000	4,800	6,400
1945	168,100	143,000	54,500	2,620	3,800
1946	208,000	100,000	43,000	4,005	2,594
1947	173,000	80,000	45,000	6,780	4,200
1948	191,000	89,000	42,000	10,500	4,000
1949	183,000	85,000	33,000	4,400	650
1950	260,000	112,000	46,000	6,200	1,000
1951	325,000	148,000	73,000	9,800	2,300
1952	435,000	152,000	92,000	14,200	4,300
1953	375,000	111,000	82,000	14,400	3,500

it has ranged from a peak of approximately 2.15 billion pounds during the war to 1.6 billion pounds in 1953. Another important enterprise on farms is poultry production. In 1953, over 36 million dozen eggs were produced. This was close to the average for the post-war years, but during the war almost double this amount was produced, with consumption and marketings of poultry meat totalling approximately 40 million pounds in 1943. Other products such as honey and forage crops contribute to a diversification of the province's agricultural production.

INDEX OF PHYSICAL VOLUME OF AGRICULTURAL
PRODUCTION — SASKATCHEWAN
1935-39 = 100



THE CHANGING TECHNOLOGY

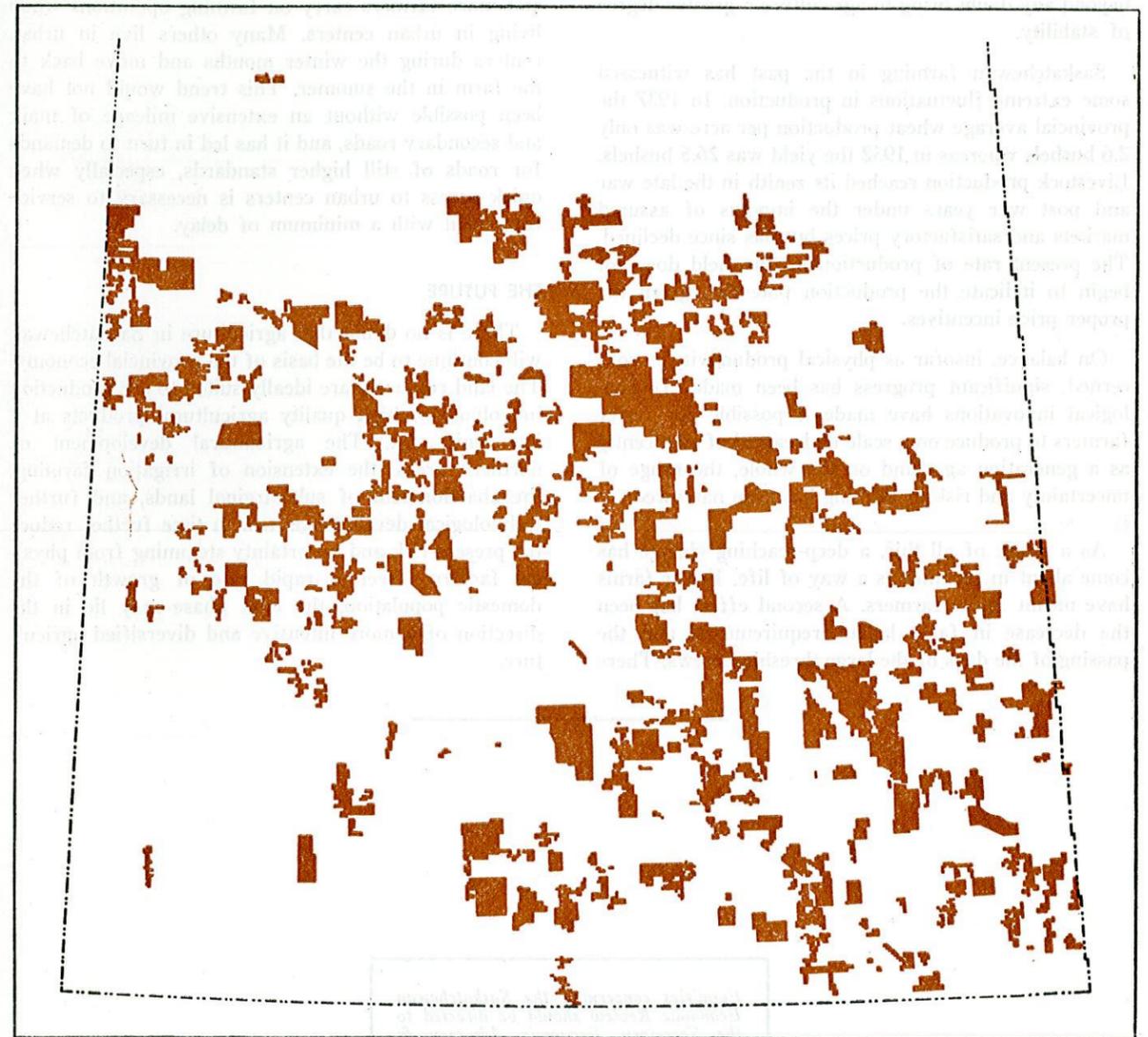
A close examination of Saskatchewan agriculture reveals its essentially dynamic nature. Over the years, the interplay of man and environment has produced a shifting pattern of agriculture.

From the early days of settlement onward, farming practices have undergone an evolution which, in the past twenty-five years, has wrought an almost complete change in the methods of production. The acknowledged symbol of this change is the ubiquitous tractor which has almost wholly supplanted animals as a source of power. With them has gone the old plow and harrow method of land tillage and in its place has come the blade and disc type of implement. Across the greater part of Saskatchewan, harvesting operations are now conducted with combines instead of the binder and thresher and the horse-drawn wagon and buggy have been superseded by the motor truck and the automobile.

The most apparent and immediate effects of mechanization has been an increase in the size of farms, as already noted, and a consequent decrease in their number. It has also made possible more timely and more effective farming operations resulting in an increase in productivity. But at the same time, a significant change has been imposed on the structure of farm costs because of the necessity for greatly increased capital outlays, and the modern farmer has to contend with a greater element of "fixed costs" in his operations. Because of this change, farm operators now require a larger amount of land in order to use more efficiently the new machinery that is now available and necessary for economic operations under present day conditions. Under this impetus most of the arable land in Saskatchewan has already been taken up. In 1951 some 39 million acres of farm land were "improved", that is, under cultivation or seeded to a grass cover. In the period between 1941 and 1951 the area of improved land increased by over 3 million acres. However, it is extremely doubtful that the remaining potentially arable land in the province would exceed this amount.

The net result is that the homesteader, eking out a bare subsistence on his quarter section farm, is virtually a thing of the past. In his place is the large commercial farm operator who has combined better varieties of seed with improved cultural practices to greatly enhance his productive potential. In the last decade technological innovations together with favor-

RURAL ELECTRIFICATION: AREAS ELECTRIFIED BY THE END OF 1953



able weather conditions have paid off in a succession of bountiful harvests. In 1940 the provincial long-term average wheat yield stood at 14.1 bushels per acre; by 1953 the average (1905 to 1953) had risen to almost 15.2 bushels per acre.

Mechanization and large scale farming, in addition to providing an appreciably larger farm cash income, has introduced a greater element of risk for some sections of the farming population. More than anything, Saskatchewan agriculture today is characterized by specialization and dependence on a single major

enterprise or cash crop. Diversification of agriculture has not yet proceeded to the stage where available land and labour resources are fully utilized. Further diversification may stem from three sources: utilization of presently underdeveloped resources, more efficient use of resources presently employed in "sideline operations", and a substitution of resources presently used for cereal production. The evidence suggests that any substantial measure of substitution would not result in greater economic returns. However, a more intensive use of presently undeveloped resources, including both land and management

factors, and the more efficient use of those resources now employed in supplementary enterprises would beyond any doubt bring to agriculture a greater degree of stability.

Saskatchewan farming in the past has witnessed some extreme fluctuations in production. In 1937 the provincial average wheat production per acre was only 2.6 bushels whereas in 1952 the yield was 26.5 bushels. Livestock production reached its zenith in the late war and post war years under the impetus of assured markets and satisfactory prices but has since declined. The present rate of production in this field does not begin to indicate the production potential, given the proper price incentives.

On balance, insofar as physical productivity is concerned, significant progress has been made. Technological innovations have made it possible for fewer farmers to produce on a scale undreamed of as recently as a generation ago, and on the whole, the range of uncertainty and risk in farming has been narrowed.

As a result of all this, a deep-reaching change has come about in farming as a way of life. Fewer farms have meant fewer farmers. A second effect has been the decrease in farm labour requirements, and the passing of the days of the large threshing crews. There

are now a large number of non-resident farms in the province—there were over 18,000 in 1951—as more and more farmers carry on farming operations while living in urban centers. Many others live in urban centers during the winter months and move back to the farm in the summer. This trend would not have been possible without an extensive mileage of main and secondary roads, and it has led in turn to demands for roads of still higher standards, especially when quick access to urban centers is necessary to service equipment with a minimum of delay.

THE FUTURE

There is no doubt that agriculture in Saskatchewan will continue to be the basis of the provincial economy. The land resources are ideally suited to the production in volume of high quality agricultural products at a low unit cost. The agricultural development of northern areas, the extension of irrigation farming, the abandonment of submarginal lands, and further technological development will in time further reduce the present risk and uncertainty stemming from physical factors. Given a rapid rate of growth of the domestic population, the next phase may lie in the direction of a more intensive and diversified agriculture.

Enquiries concerning the Saskatchewan Economic Review should be directed to the Secretary, Economic Advisory & Planning Board, Legislative Building, Regina, Saskatchewan.