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HISTORY OF WHEAT RAISING IN THE RED RIVER VALLEY.*

BY HON. GEORGE N. LAMPHERE.

DESCRIPTION OF THE RED RIVER VALLEY.

I have not deemed it entirely relevant to my subject to discuss the topography, the geology, or the aboriginal inhabitants of the Red River valley. And for another reason than its relevancy, I have omitted any discussion thereof because they have heretofore been treated by the honored secretary of this Society, Warren Upham, in a paper read at its annual meeting in 1895 (Minnesota Historical Society Collections, vol. VIII, pages 11-24).

The Red River valley, as this term is commonly used, is a broad and flat prairie plain reaching ten to twenty miles on each side of the Red river of the North, having thus about half of its expanse in Minnesota and the other half in North Dakota. It extends three hundred miles from south to north, continuing in Manitoba to lake Winnipeg. Inclosed by the higher land on each side, and pent in at the north by the barrier of the receding ice-sheet at the end of the Glacial period, this valley plain was covered in that geologic epoch by a vast lake, which, with the complete disappearance of the ice-sheet, was drained away to Hudson bay. To this glacial lake Mr. Upham has given the name of Lake Agassiz; and its survey and description are the subject of a volume prepared by him and published by the United States Geological Survey. The closing chapters of that work should be consulted by any who seek information concerning the general ag-

*An Address at the Annual Meeting of the Minnesota Historical Society, January 8, 1900.

ricultural capabilities of this very fertile district, or concerning its water supply and its hundreds of artesian wells.

WHEAT RAISING IN THE SELKIRK SETTLEMENT.

The beginning of wheat raising in the Red River valley was in the Selkirk settlement north of the boundary line, near Fort Garry, now Winnipeg.

In 1811 the Earl of Selkirk purchased from the Hudson Bay Company a vast tract of land in Manitoba, including the land afterward occupied by the Selkirk settlement. The purchase was subject to the Indian claim to its title. About the time of this purchase there was a compulsory exodus of the inhabitants of the county of Sutherland, Scotland, from the estates of the Duchess of Sutherland; and Lord Selkirk took a large number of these evicted persons under his protection and forwarded them to settle on the land he had purchased on the Red river. They arrived on the bay in the fall of the year, and spent the winter at Churchill, on the western shore of the bay. In the following spring they advanced inland, crossed lake Winnipeg, and ascended the Red river of the North. They intended to make their home at the confluence of the Assiniboine and Red rivers, but on arriving there found that the X. Y. and the Northwest Companies of Canada, which were opponents of the Hudson Bay Company, regarded them as invaders and also as protégés of the latter. The Indians also objected to the cultivation of their hunting grounds, and were instigated to hostile proceedings against the new comers by the representations of the Canadian companies.

The year 1812 passed without any satisfactory progress being made toward settlement, and the immigrants spent the following winter in great distress at Pembina, whither they were driven by the Indians. By some means, however, they were able to mollify their opponents, and were permitted to return in the spring. They built log houses and began the cultivation of the land on the bank of the river. Within a year they were attacked by the partisans of the companies, who burnt their houses and killed some of their number. Afterward, being reinforced by a company of additional immigrants from Scotland, the settlers returned to the places from which they had been driven, and recommenced their labors. The

hostility of the companies toward these poor immigrants was continued, their property was destroyed and men were captured and killed. At length, on June 19, 1816, the adherents of the two parties met at Seven Oaks, in the center of the settlement, under such circumstances that a small battle occurred, in which about twenty men, among whom was Governor Semple, were killed.

In 1817 Lork Selkirk came over and visited the settlement. Besides having a desire to see how the settlers were prospering, he desired to negotiate for the extinguishment of the Indian title to the land he had purchased. After much difficulty he negotiated a treaty with the Chippewas and Crees, which treaty was signed July 18, 1817. The consideration was the annual payment of 200 pounds of tobacco, half to the Chippewas and half to the Crees. The conditions in the territory at this time were so wretched that the Canadian government interfered and appointed a commissioner to make investigation, who recommended an amicable settlement and a union of interests by the companies, which had been reduced to the verge of bankruptcy. It was a long time, however, before action was taken. Lord Selkirk died in 1821, and the Right Hon. Edward Ellice succeeded to his rights. He was one of the principal stockholders of the Northwest Company, and the Canadian government consulted with him and under its auspices he instituted negotiations, which, after many difficulties, resulted in a harmonious union between the Hudson Bay Company and the Northwest Company, the latter having before combined with the X. Y. Company. This agreement went into effect in 1821, and from this date the opposition to the settlers was withdrawn.

Lord Selkirk, on his arrival in 1817, had provided the settlers with agricultural implements, seed grain, and other necessities, but the season was so far advanced that little produce was grown in 1817 and a famine ensued. The people again returned to Pembina, where they passed the winter, subsisting as best they could on the produce of the chase. The next spring they went back to their lands, ploughed and seeded them, and entertained high hopes for a bountiful harvest, but were to be sorely disappointed, as an army of locusts made its appearance and in one night destroyed every vestige of verdure in the fields. The locusts left their eggs and in 1819 were more numerous than

in the preceding year, making agriculture impossible. The settlers again took refuge at Pembina, and Lord Selkirk imported 250 bushels of seed grain from the United States at an expense of £1,000, and this, which was sown in the spring of 1820, produced a plentiful crop in the autumn of that year. Thus it may be said that the first wheat that was ever successfully grown and harvested in the Red River valley was in the season of 1820 by the Selkirkers. I am principally indebted for the facts as above set forth to the book entitled "Red River," by J. J. Hargrave, printed by John Lovell, Montreal.

The methods of cultivation in the Selkirk settlement were rude and primitive. Their plow was English or Scotch, made all of iron from the tip of the beam to the end of the handles, and was ten or twelve feet long. Its share was shaped like a mason's trowel. With this drawn by one horse, enough ground was scratched every spring to raise sufficient wheat to feed all the blackbirds and pigeons in the Red River valley, and leave a surplus large enough to meet the wants of the people of the settlement; also to sell to the Hudson Bay Company all they needed for their outposts in the British Northwest possessions, and still leave a surplus sufficient for food and seed for two years, which was stored up to be used in case of emergency or failure of crop in the coming seasons. The grain was cut with sickles, the bundles tied with willow withes and stacked in the barnyard, to be flailed out during the winter and cleaned by the winds, men, and women and children all giving a helping hand in this work.

In August, 1851, Charles Cavalier arrived at Pembina. At that date the Red River valley, except the Selkirk settlement, was a howling waste throughout its whole length and breadth. Then there were only four white men in that section, namely, Norman W. Kittson, Joseph Rolette, George Morrison, and Charles Cavalier. There were 1,800 to 2,000 half-breeds, and Mr. Cavalier says that, as he was born among the Wyandotte Indians in Ohio and brought up near them, the Indians at Pembina were not much of a curiosity to him, but the half-breed was a new phase of the genus. "To this day," says he, "I have not fully made up my mind whether the cross between the white man and the red man was much of an improvement, as with but few exceptions the Indian blood predominates."

In those early days bread was a rarity, and pemmican, dried buffalo meat, fish and a few potatoes constituted the food supply. Charles Cavalier and Commodore N. W. Kittson planned a trip to the Selkirk settlement, where they were told they would find bread in abundance. They set out in the same year (1851) and in a day and a half's sail down the river in a canoe reached Fort Garry and St. Boniface, where they received a hospitable welcome from Vereck Marion, Mr. Kittson's father-in-law. They visited the Roman Catholic bishops and clergy and found them pleasant and agreeable gentlemen. They also visited the Sisters of Charity at the hospital, who gave them a warm welcome and showed them through the whole establishment. Kittson having returned to Pembina, Mr. Cavalier, in company with Mr. Marion, visited the office of the Hudson Bay Company, where they met also Major Campbell, who was in command of a company of British troops stationed near Fort Garry. With Marion, who was an old settler and acquainted with every one, Cavalier went on a tour of inspection and gathered all the information possible in his limited time in order to tell his friends on his return about this isolated, almost unheard-of community, and how they made life endurable in their frigid northern climate.

From Fort Garry to the Lower Fort the two men called at almost every house, and found a happy, prosperous, English-speaking people, mostly of Scotch descent from the immigrants sent over by Lord Selkirk. A few of other nationalities were also there. They were very kindly and hospitable people. The two men called upon Bishop Anderson of the English church, and found him to be "a fine old English gentleman all of the olden time." With him they visited the colleges, one for males and the other for females, where the youth received a classical education, and which institutions are still in existence. Here Mr. Cavalier first met Donald Murray, one of the original Selkirk settlers, who had once settled at South Pembina and had remained there until it was determined to be south of the international boundary line, and whose daughter is now Mr. Cavalier's wife. Mr. Cavalier somewhat enthusiastically says that his impression at that time was that he had never seen a more prosperous community in the States than was the Selkirk settlement. There was not a family that was not well off as to all the wants of life. The latch string

of every door hung on the outside, and all who called were welcome to the best the larder contained, and when leaving were asked to come again. Sectarianism was unknown among them, there being only one church, the Episcopal. Though the Scotch were mostly Presbyterians, yet when Dalton Black settled among them and an Episcopal church was built for them, there was no ill feeling shown on either side. Their houses were all built of logs and built for comfort, convenience, and warmth. Many of them are yet occupied, but the changes caused by Canadian immigration have had a large influence in changing their manner of life. However, they are today the same good people and live up to their religion.

The half-breeds of the Selkirk settlement, speaking English, are not nomads like those of French extraction, but take to the ways of their fathers and are workers and tillers of the soil. Nearly all have homes and lands of their own, educate their children, and have something laid by for a rainy day; while the French half-breeds, who are mostly of the Roman Catholic faith, believe that "sufficient unto the day is the evil thereof."

As the harvest of that season (1851) was nearly finished and the barnyards were filled with large and bountiful stacks of wheat and barley, and a stack or two of oats and peas, it was a rich sight, and there was no fear of starvation for two or more years, even should the crops fail. The land system, which gave a strip of land six chains wide fronting the Red River and extending back two miles, gave the settlement the appearance of a long, straggling village along the road from Fort Garry to the Lower Fort; and as the dwellings, barns and stock were in close view all the way, the picture was a most beautiful and interesting one, such as is nowhere seen in the States and rarely even in old Europe.

The Selkirkers generally had large families and old and young worked together on the homesteads. While like other farmers they suffered from drouth, grasshoppers, and frosts, yet they usually secured good crops, and saved a reserve for two or three years, an amount for seed, and sold the surplus to the Hudson Bay Company. Occasionally they would have poor crops and perhaps be compelled to use their reserve, or even to borrow from the Hudson Bay Company for seed and food. The company, whose interest it was to be liberal, as they depended upon these

farmers for their supplies of wheat for their support, loaned willingly, but required the payment from the succeeding crop. A government never existed, in the opinion of Mr. Cavalier, that got on better with settlers than the much abused Hudson Bay Company.

EARLY FLOURING MILLS; GRASSHOPPERS.

At that time, as before noted, all grain was cut with sickles and bound with willow withes by the women and children. Wheat, barley, and oats, were threshed on a barn floor with a flail during the winter season, and were winnowed with a large wind scoop resting on the breast; and it was remarkable how fast, with a good wind, the grain could be cleaned. The wheat was ground in large windmills, bolted fine and clean, and made excellent bread. The flour was not like the flour of these days, and modern cooks would probably turn up their noses at it, but it was to the taste as good as our best.

Mr. Cavalier in his rambles on that trip counted fifteen windmills, all grinding out flour at a lively rate, which at that time sold for eight or ten shillings per hundred weight.

The old settlers told of a grasshopper scourge at a date forgotten by them, that made a clean sweep of every growing thing, and that grasshoppers were piled up by the winds and waves four feet deep on the shores of lake Manitoba and Shoal lake. They stated that after the grasshoppers had done all the damage they could, as every thing was eaten, the Catholic clergy got up a procession and said prayers, and on the next day the hoppers quit hopping, took to their wings, and flew away to the northward and were seen no more.

Mr. Cavalier says the first time he saw grasshoppers was in 1854. He was in camp one night on White Bear lake, now lake Whipple, and took an early start toward St. Cloud. It had rained during the night and all were wet, so at nine o'clock they turned out on the bank of Long lake and spread their clothes and other things to dry. They made a fire to cook breakfast. Mr. Cavalier, on looking around for his blankets, etc., saw nothing but a squirming mass of grasshoppers, all as busy as if they had struck a bonanza. They were not able to get out of that mass of grass-

hoppers until they had traveled about twenty miles. On the return they struck them at St. Cloud, and they had cleaned the country quite thoroughly on their flight east. On crossing the Red river and between that and the Wild Rice river they struck the forerunners of another cloud of grasshoppers, and did not get clear of them until they arrived home at St. Joseph, now Walhalla. For gluttony the hopper takes the cake, Mr. Cavalier says, and relates that they ate the seat of his saddle and the tops of his boots. He threw a plug of tobacco to them, and within an hour they had eaten that.

In 1870 another visitation of grasshoppers appeared, and in that year and the year following their ravages were disastrous. In 1874 they came again and stayed three years, eating everything in the Red River valley, and the settlers were obliged to haul their flour from St. Cloud. Minneapolis and St. Paul sent relief to carry the poor through, which saved many from actual starvation.

Thus the Selkirkers, with the simplest and rudest of agricultural implements, were always prosperous, and want was unknown among them. Through them we learned that the Dakota lands were not the barren wastes and howling desert of dry, drifting sand that our school books had taught us, and that the Red River valley contained a mine of wealth greater than any discovered mine of silver and gold. This we were slow to realize, but have at length made the Red River valley the most bountiful granary of the world. The windmills of that famous pioneer settlement have done their last grinding; most of the old hand labor implements have been laid aside; and the new and improved forms of farm machinery, so efficient and so exact as to give almost the appearance of having human intelligence, have taken their place. These are run or propelled by horse and steam power, and the labor of one man has become as that of many. Mr. Cavalier reminiscently says: "I was here for years living by the proceeds of the chase, never dreaming that this mode of livelihood would ever cease, or that the millions of buffaloes that roamed the prairies, would ever be exhausted, and that we old settlers would soon be seeking other means of support."

The settlers south of the line had to depend upon the Selkirk settlement for their bread and butter. Old Father Belcourt, of

St. Joseph, near the Pembina mountain, a Catholic priest, and a rustler in all things for himself first and for his people next, built a bull mill at his mission at St. Joseph and ran it a few years with oxen, and ground what little wheat the half-breeds raised. With no bolt to take the bran out of the flour, it had to be run through sieves or eaten husks and all. The half-breeds did not furnish wheat enough to make the mill pay, and they could not be induced to greater industry, so that the good old man had to give the mill up. The result was that the half-breeds returned to the coffee-mill or ate the grain raw or roasted. That mill was the first. George Emerling and John Mayn built the next, and that mill is now one of the paying concerns of Pembina county at Walthalla, having all the new improvements in merchant mills.

FIRST MAIL ROUTE.

The first public business tending to civilization was the establishing of a monthly mail between Pembina and Fort Abercrombie. It was a kind of go-as-you-please, sometimes on foot, with the mail bag on the man's back, sometimes by horse and cart, and by courier, any way so that the mail was carried, and in those days it was never behind time. At least the contractor never was docked or fined. From Pembina the mail was taken to Fort Garry, and that office had to use Uncle Sam's stamps. From Fort Garry the route was to Fort Abercrombie and run by dog trains, horse and cart, and one year by ox cart, as all the horses from St. Cloud to Fort Garry died or were rendered useless by an epidemic. Sometime in the sixties, Capt. Blakeley and Carpenter secured the contract to carry the mail from St. Cloud to Georgetown on the Red river, and afterward had it extended to Fort Garry, Selkirk settlement.

The following is a list of the stations. Beginning at Pembina and going up or south, the first station was Frank La Rose's, at Twelve Mile Point; next were Bowesmont and Long Point, near Drayton, Hugh Biggiotoff; and Kelly Point, now Acton. Kelly was an old driver and gave it up. Gerard was station agent as long after as the route was in existence. Beyond were Turtle River, Jo Caloskey; Grand Forks, John Stewart first, and several others afterward; Buffalo Coulie, unknown; Frog Point, un-

known; Goose Prairie, A. Sargent; Elm River, Johnson; Georgetown, Hudson Bay Company; Oak Point, unknown; Twenty-four Mile Point, McCauleyville, and Breckenridge. At none of the above stations was a handful of grain raised. The contractors hauled all their oats from St. Cloud. The above named points were all the settled points, and there was not a settler elsewhere on the river from Breckenridge to Pembina.

STEAMBOATS ON THE RED RIVER.

In 1858, Anson Northup got the steamboat Pioneer in successful operation. Mr. Cavalier says he was then living at St. Boniface, Selkirk settlement, and with his wife made a trip on her to Lower Fort Garry, and he says that the settlers on the bank of the river were as much surprised as were the Indians in their villages on the Minnesota river at the first boat when she steamed up to Mankato. It was a perfect circus all the way down.

The International made her appearance within three or four years afterward as a freight boat for the Hudson Bay Company, ostensibly owned by Commodore N. W. Kittson, and was used as long as there was need of a boat on the river. She was all the time under the command of Capt. Frank Aymond, a St. Louis Frenchman from Ville Roche, and he was an excellent captain. Since leaving the river he has been living on his farm some four miles above Neche on the Pembina river, where he expects to pass the remainder of his days to a happy old age.

The Selkirk came next. She was built by James J. Hill; and other boats were built to supply the increased demand. Then followed the combination known as the Red River Transportation Company, which did business under that head until the railroads successfully shut off river navigation.

The amount of business that these boats accomplished was astonishing, and yet they did but little, perceptibly, toward settling the country, as there were only three or four points on the river that showed a beginning of what was to come. From Fargo and Moorhead to Grand Forks there were only a few settlers; and from Grand Forks to Drayton a few had settled to stay. Bowesmont was a steamboat landing, but never has amounted to much. Then Joliette commenced to grow and is now quite a

prosperous community, and, last but not least, Pembina. Back from the river there was no settlement and without the aid of railroads it would have taken an age to build up the country to what it now is.

Prior to 1878 there had been a few shipments of wheat, which had been picked up along the river by the boats. Frank C. Myrick, who was in the commission business from 1864, made the largest shipment on one of the boats ever made from Pembina. It amounted to 500 bushels of wheat, which he had collected from the back country on the Pembina and Tongue rivers. From Grand Forks to Pembina settlers came dropping in by families one at a time, and all came with the idea that wheat was the only staple to be cultivated in the Red River valley, all of which they had learned from the remarkable crops raised in the Selkirk settlement with primitive tools for cultivation, yielding from twenty to fifty bushels per acre. In one instance by garden cultivation as an experiment on the ground of Deacon James McKay, the yield was seventy-five bushels to the acre. If such crops are raised in Selkirk with the imperfect cultivation, why may we not, they reasoned, do the same or better with improved machinery farther south in the valley? For a few years they did so, and they continued to do well as long as they confined themselves to the extent of land they could properly cultivate. But greed was their worst enemy. If 160 acres panned out so well, why would not a section do better? And there they made a mistake, as will be explained later.

FIRST WHEAT RAISING NEAR THE PEMBINA RIVER.

During the period thus far traced, no wheat was raised south of the international boundary line. The settlers there lived on fish, flesh, and fowl. They raised all the garden vegetables needed, and bought flour from the Selkirk settlement. For fresh meat they depended upon the plains, and were seldom out of a supply. Barley was raised for horse feed, and some oats were raised, but the blackbirds devoured most of the oat fields. Having no mills to grind wheat, the settlers on the south side of the line raised none, but did raise squaw corn for roasting ears. The few cattle were kept on hay in winter, and the Indian ponies dug theirs

out of the snow, save in a period of unusually cold weather and deep snows, when they were fed hay.

In 1871 or 1872, Charles Bottineau, who had tilled ten acres to garden, seeded it to wheat, and claims to have raised fifty bushels of No. 1 hard wheat to the acre upon it. His place was four miles above Neche on the north side of Pembina river. Two years later Charles Grant, two miles west of Pembina, raised a small field of wheat, and claims to have averaged forty bushels to the acre, all of which they hauled to the Selkirk settlement to have it ground. A man named Vere Ether came to Pembina at the beginning of Riel's rebellion (1869), and was stopped at the boundary line by Riel's scouts. They sent him back to wait for a more convenient time. He was persuaded to take a preëmption on the Pembina river a few miles east of Neche. He opened up his farm and was the first settler there who made wheat-raising his chief employment. He always had good crops, in good seasons forty bushels per acre and never less than fifteen bushels.

PIONEER FARMERS NEAR MOORHEAD AND FARGO.

One of the oldest settlers and farmers in the Red River valley, south of the international line, is Hon. R. M. Probstfield, now living on his farm three and a half miles north of Moorhead. He came to the valley in 1859, and located at the mouth of the Sheyenne river, about five miles south of Georgetown. In October, 1860, he went to Europe, and returned in the spring of 1861, but, owing to the flooded condition of the valley that spring, he was unable to reach his location until June 10th. At that time parties by the name of Roundsville and Hanna were on the land where Mr. Probstfield now lives, and that spring they sowed a little wheat and planted potatoes. Roundsville and Hanna were called away and they made arrangements with Mr. Probstfield to harvest the wheat and dig the potatoes, but the Chippewa Indians threatened to drive them away and kill their stock. The wheat was destroyed by hail. Mr. Probstfield dug the potatoes. He had brought some cattle from St. Paul, and that fall he cut some hay on the place now occupied by Jacob Wambach. The Indians never molested them, as, after the troops at Fort Abercrombie had given them a whipping, they went north into the British possess-

ions. In the fall of 1861 he went to the post at Georgetown, and lived there until March, 1863, when General Sibley ordered all whites to go to Abercrombie. This was owing to the Indian uprising. He remained at Abercrombie until June, 1863, when he was ordered by General Sibley to remove to St. Cloud, where he remained until May, 1864, when he returned to Georgetown. The Indians had burned his buildings on the Wambach place, on the Buffalo river near Georgetown. He then opened a boarding house in one of the Hudson Bay Company's buildings at Georgetown, and was appointed postmaster. There were twenty-five men there at work building barges, who lived in the military quarters and boarded with him.

From 1864 to 1868, Mr. Probstfield was the Hudson Bay Company's agent at Georgetown. In 1862 the company seeded some wheat, but it was not harvested, owing to the abandonment of the post on account of the Indian scare. The company leased its boat, the *International*, to Harris, Gaeger, Mills & Bentley, until the post was again opened in 1864. Roundsville and Hanna having abandoned their farm, in Oakport, Mr. Probstfield took it as his homestead and occupied it in May, 1869, where he has ever since lived. There were seventy-one acres in the place, and he afterwards purchased additional land at \$1.25 per acre. In 1869 he broke land for a garden, and seeded oats and barley and planted potatoes. He also kept live stock. As there were no threshing machines or mills in the country, it would not pay to raise wheat. In 1874, the Hudson Bay Company brought a thresher, a horse power machine, and the company's agent at Georgetown, Walter J. S. Traill, offered to thresh any wheat that was grown. Mr. Probstfield accordingly broke up fifteen acres and seeded it to wheat, harvesting twenty-eight bushels per acre, which was sold at about \$1.50 per bushel. I should have remarked that during the years 1870 to 1873, Mr. Probstfield cultivated ten acres to oats, barley, corn and garden. Moorhead and Fargo had begun to be established in 1871, and these places afforded an excellent market for all the produce grown.

Nels Larson raised some wheat also in 1874, on land about two miles north of Moorhead, now known as Dr. Brendemuehl's farm. Ole Thompson, Hogan Anderson (Hicks), and Jens Anderson, raised wheat south of Moorhead the same year. This

wheat was sold to an elevator in Fargo that was built before Bruns & Finkle had built their large elevator and mill in Moorhead.

In 1875, Mr. Probstfield again raised wheat, and the number who were engaged in the industry considerably increased that year. In the spring of that year a number of Norwegians from Houston county came up and looked at land on the Dakota side between Georgetown and Argusville. Finding the land very wet by overflow of the river, they returned to the Minnesota side, and Mr. Probstfield, meeting them, asked where they were going, and they replied, "Back to Houston county." He was cultivating potatoes, and he said to them that if they would put two young men to work in his place, he would go with them and show them good land that had been surveyed. They agreed, and he took them over to the Buffalo river about six or eight miles east, where they located. There were six or seven families, and among them were Ole Thortvedt, Ole Tauge, Torgerson Skree, Ole Anderson, and others. They were delighted with the location and land, and they or their descendants are still there and prosperous. A. G. Kassenborg, A. O. Kragnes, and B. Gunderson and others, came a little later, and located on the Buffalo river. Jacob Wambach came in 1874, with his father-in-law, Joseph Stochen. Contemporary with Mr. Probstfield was E. R. Hutchinson, who settled where he still resides, about two miles south of Georgetown on the river. The boom began about 1878, when the immigration into the valley was very large. Wheat sold for \$1 and above until about 1882, and it fell until it reached the low price of 42 or 43 cents.

One of the oldest settlers in the valley on the Dakota side and one of the most successful farmers is James Holes. He came in July, 1871, and bought out the claim of Ole Hanson, who had a cabin on the west bank of the river about one mile north of the Northern Pacific surveyed line. Hanson had a small patch of corn and potatoes. No corn was secured that year, and Mr. Holes says he dug about half a barrel of potatoes. The Northern Pacific railroad had laid tracks in the fall of 1871 to the east side of the river, to a point where Moorhead now stands. There was no bridge as yet, and owing to want of timber the bridge was not

built until the summer of 1872. The first engine crossed the river July 4 (or June 6), 1872. Mr. Holes states that the freight charges for wheat to Duluth at that time were prohibitory and this discouraged the growing of it. He interviewed the general manager and made such representations to him. The charge then was \$99 for 20,000 pounds. This was exactly 30 cents per bushel. The company soon after (in 1873) made a considerable reduction. In 1872 Mr. Holes had the largest cultivated field in Cass county. It was cropped to oats, potatoes, and garden vegetables, and contained twenty-four acres. There were good markets, and Mr. Holes shipped his produce to Fort Buford, Bismarck, Winnipeg, and Glyndon. In 1873 he pursued the same employment. In 1874 he seeded fifteen acres of wheat, and harvested twenty bushels per acre. The season was dry, and, as the land had been gardened, it blew out badly, which caused a rather light yield for those early years. The wheat was the Scotch Fife variety, and he sold it for seed. In 1875 his acreage of wheat was about the same, but having in 1876 broken 150 acres, in the spring of 1877 he seeded 175 acres to wheat and secured an average of twenty-seven and one-half bushels per acre, which he sold at \$1 per bushel. As this wheat was raised on land worth \$5 per acre, the profit was large.

From 1878 to 1893, Mr. Holes yearly increased his acreage of wheat until he had reached 1,600 acres, which has been about the extent of his yearly wheat cultivation since. His land is now worth \$30 per acre. The poorest field he ever harvested was ten bushels per acre, and the best forty-four bushels. His average has always exceeded ten bushels, but never exceeded twenty-seven and one-half bushels. The price has ranged from \$1.50 to 45 cents per bushel. Grasshoppers prevailed from 1871 to 1877, and wreaked more or less damage every year. In May, 1876, the settlers burned the young grasshoppers in the prairie grass, which checked them; and in 1877 they all flew away, and this part of the valley has not been troubled with them since. Mr. Holes' crops have, in the twenty-eight years of his residence here, been injured by hail four seasons. The most disastrous hailstorm was last season, when he lost, as he figures it, about 16,000 bushels of wheat by hail. Mr. Holes states as his judgment, formed after long experience, that wheat can be produced at a profit in the

valley when properly cultivated, excluding from the calculation the advance in price of land, and that the valley is one of the best in the United States for profitable farming.

Moorhead was the terminus of the Northern Pacific railroad for a period of two years, and a large amount of freight was transferred at that point for transportation down the Red river to Winnipeg and other places. At that time nine steamers were plying on the river, and a number of flatboats were used in connection. An eye witness has informed me that he has seen as many as eleven hundred Mennonite immigrants camped at Moorhead and bound for Manitoba and the Northwest Territory, who pitched their tents on the banks of the Red River, awaiting transportation by boat down.

In May, 1871, there were a few settlers at Glyndon, Muskoda, and Hawley, and a few along the Red river within the present limits of Clay county. The very earliest settlements were made at Georgetown by Adam Stein, R. M. Probstfield, and E. R. Hutchinson, who became husbandmen and tillers of the soil. We have the gratification of knowing that they are still living witnesses of the fertility of the Red River valley soil and the healthfulness of the climate, and moreover of the fecundity of mankind when under the influence of both these. Mr. Hutchinson is the father of seventeen children, Mr. Probstfield of thirteen, and Mr. Stein of eight.

It may be of interest to my hearers to learn the particulars as to how it happened that these three pioneers drifted into what is now one of the most famous agricultural regions in the world, but which was then a dreary waste uninhabited save by Indians and roamed by wild beasts. In March, 1859, a party of capitalists, consisting in part of Messrs. Peter Poncin, Welch, and Bottineau, of Minneapolis, and Barneau, John Irvine, and Freudenreich, of St. Paul, explored the Red river country; and their investigations convinced them that a point at the mouth of the Sheyenne river, about fourteen miles north of the present site of Moorhead, was the head of navigation of the Red river, and they judged that it was the natural point for a townsite. They therefore covered a plot of land at the point named on the Minnesota side of the Red river with scrip, and laid out a town which they named La Fayette, and they sold a great many shares in this

townsite to parties east. On the site they built a large log house, which they intended for a tavern. At this time Mr. Probstfield was in business at St. Paul in partnership with George Emerling, and the townsite owners induced Mr. Probstfield to go up to La Fayette. He remained there for a year or more and soon after preëmpted a claim on the south side of Buffalo river, not far from Georgetown. In 1864 he went into the employ of the Hudson Bay Company at Georgetown, where they had a warehouse and trading post.

Mr. Stein was induced in July, 1859, to go to La Fayette, and he afterwards preëmpted a claim near Georgetown. His first work was in cutting prairie grass and making hay, which he sold to the Hudson Bay Company; and later he worked in erecting buildings at Georgetown for that company. In December, 1861, Mr. Stein enlisted as a soldier in the Fourth Minnesota regiment and served through the Civil war. After his return from the war, he settled on land near the Hudson Bay Company's buildings at Georgetown, and has been a farmer there ever since.

The first steamboat on the Red river was built at La Fayette, the materials for which were transported across the country from Crow Wing on the Mississippi, where the steamer North Star was broken up for that purpose. The new boat was named the Anson Northup. With the party who came across the country with those materials was E. R. Hutchinson, who helped to build the boat, and for a number of years he was engaged in boating on the Red river and building boats thereon and also on the Saskatchewan. Mr. Hutchinson afterward became a farmer and preëmpted land not far from the old site of La Fayette, where he now lives. I have related in another place how Mr. Probstfield became one of the first farmers in the valley. Besides these three men on the north of the line of the Northern Pacific railroad there were on the south Jens Anderson and his brother, about three miles south of Moorhead. Ole Thompson made settlement about the same time on the river about eleven miles south.

Early in the spring of 1871 Henry A. Bruns went from St. Cloud to Brainerd, which was then the western end of the Northern Pacific railroad track. From Brainerd he rode to Oak Lake, at the engineers' headquarters of the road, where he met Gen. Thomas L. Rosser. The Northern Pacific had surveyed its line

to the Red river at a point some twenty-eight miles below Moorhead. Mr. Bruns was prospecting, looking for business chances. He then returned to St. Paul, bought a load of provisions and ready-made clothing, and hauled them to the Red river. Where Mr. Probstfield's house now stands (about three and a half miles north of Moorhead), he found an encampment of tents, and here he met H. G. Finkle, J. B. Chapin, and John Haggert. This was about June, 1871. Mr. Bruns opened out his goods in a tent, and formed a partnership with Mr. Finkle. They remained at this point (Oakport) until September, when, the townsite of Moorhead having been staked out, all those at Oakport removed thereto. At Moorhead they did business in tents all winter. In March, 1872, Mr. Bruns went to McCauleyville and bought a lot of lumber, hired teams, and hauled it to Moorhead. Bruns & Finkle then erected a frame building, of 21 by 50 feet. They continued to do business in this building until 1877, when they built a large brick store.

We have given this somewhat lengthy introduction of Mr. Bruns into this history for the reason that he was a pioneer in promoting the industry of wheat raising in the Red River valley. In the winter of 1871-2, Mr. Bruns purchased 500 bushels of seed wheat, which he gathered along the Minnesota river and farther south and east, and transported it hundreds of miles by sleds, which wheat he distributed among the farmers of Clay and Norman counties, Minnesota, and Cass and Traill counties, Dakota. The facilities for raising wheat that year being poor and the grasshoppers very destructive, there was no surplus from the harvest in excess of the amount required for seed the next year. Early in 1874, Mr. Bruns organized a stock company which erected the first flouring mill and sawmill. This mill soon demonstrated that the wheat of the valley was of superior quality for making strong flour and excellent bread. The flour was awarded the first premium at the Minneapolis and Minnesota State fairs two consecutive seasons. The sawmill cut timber for the construction of the steamboats, the Minnesota and Manitoba, built at Moorhead in 1875, by the Merchants' Transportation Company, of which James Douglas, brother of John Douglas of St. Paul, was president. They were the best boats ever on Red river. This assisted in opening up Manitoba and the Northwest Territory markets.

Later the Upper Missouri and Black Hills countries were secured, and later still the Yellowstone country, as markets for the flour of this mill. It created a market for the wheat produced within a wide radius, and for a number of years took all that was offered, rarely giving less than \$1 per bushel.

In 1878, Bruns and Finkle, seeing the necessity for more storage for the rapidly increasing production of wheat, erected a large steam elevator at Moorhead, with a capacity of 110,000 bushels. It was the first steam elevator built in the Red River valley. Mr. Bruns informs the writer that in the fall of 1873 he shipped the first carload of wheat from the Red river to lake Superior, which, by personal hard work in cleaning, was graded No. 2, though it certainly was No. 1, none like it ever having been shipped in the history of the world before. Mr. Bruns, in a personal letter, says: "In the fall of 1874 I commenced to grind about all the wheat then grown in the Red River valley, and in the fall of 1875 I gathered wheat and other grain, not as before by the thousand but by the tens of thousands of bushels, and with wheat and flour of my own grinding supplied the Canadian government and Mennonites with seed and bread throughout Manitoba."

Of the pioneer farmers who broke land extensively and opened farms in Clay county are John and Patrick H. Lamb, Franklin J. Schreiber, G. S. Barnes, Lyman Loring, George M. Richardson, Capt. W. H. Newcomb, A. M. Burdick, W. J. Bodkin, and Charles Brendemuehl.

EARLY WHEAT RAISING NEAR FORT ABERCROMBIE.

Wheat was grown near Abercrombie, on the east or Minnesota side of the river, in what is now Wilkin county, about as early as anywhere in the valley, except in the Selkirk settlement and in Pembina county, North Dakota, then the Territory of Dakota. Probably the first man to sow and harvest wheat in the upper or southern part of the valley was Hon. David McCauley. I append herewith his narrative just as he has given it to me.

"I came to Abercrombie July 17, 1861, to act as post sutler, postmaster, and agent for the Northwestern Transportation Company. In the spring of 1862, I sowed a few acres of barley,

planted potatoes, and opened up a garden, which were destroyed by the Indians in August. In the spring of 1864, I crossed over on the Minnesota side of the river opposite to the fort and commenced farming. In 1865 I sowed some seventy-five acres of oats and planted a few acres of potatoes, and continued to sow and plant the same crops until 1871. There was no market for wheat until that time, nor until the railroad reached Moorhead or Breckenridge. In the spring of 1872 I put in a few acres of wheat, and have continued the same up to the present time. This season (1899) I raised 10,000 bushels of wheat. In the earlier years the yield of wheat was about the same as now. The land that I cultivated in 1865 has been cropped every year since except three, and the yield in 1899 was as good as I have known it. I know of no wheat being sown in the valley earlier than mine. The following are some of the men who sowed wheat soon after I did: Edward Connolly and Mitchell Robert, Breckenridge; Loure Bellman, J. R. Harris, and J. B. Welling, McCauleyville; Frank Herrick and John Eggen, Abercrombie. In the early days the only market for oats and potatoes was Fort Abercrombie."

DEVELOPMENT BY RAILROADS.

Prior to 1878 there were no settlements away from the Red, Red Lake, and Pembina rivers, in the lower or northern portion of the valley, so that, in treating of the Minnesota side north of the Northern Pacific railroad, it is apparent that no wheat was grown on that side (except near Moorhead) until the completion of the St. Paul, Minneapolis & Manitoba railroad (now the Great Northern) to St. Vincent, when immigration set in, bringing settlers to many stations, who at once began to break land and sow it to wheat. The district between the railroad and Red river was first settled.

It is a fact, which none will dispute, that the building of railroads into and through the valley has been the most important factor in settling the country and developing the resources of this fertile plain. Without these it would today be practically unpopulated and undeveloped, as it remained for fifty years after the Selkirk settlers had demonstrated its adaptability to cultivation.

There might have been a fringe of settlements along the streams, but without more efficient means for transporting wheat and other agricultural products to market, there could not have been any great development and production.

THE DALRYMPLE FARM.

Another leading factor in settling the country has been the so called bonanza farms. Those demonstrated on a large scale the practicability of producing wheat at a profit on the flat lands of the valley. They advertised the results of great operations, and made known to the world the wonderful possibilities of the region.

The first of these was the Dalrymple farm, eighteen miles west of the Red river, opened up in 1875 and subsequent years. A brief description of this farm may be of interest. In the year 1875, a number of large holders of the bonds of the Northern Pacific railroad company, supposed to be the Grandin brothers, Messrs. Cass, Howe, and Cheney, who had taken the bonds at par and which were then worth only ten cents on the dollar, determined to save as much as possible, and exchanged the bonds for a great block of the company's lands in the Red River valley. In March, 1875, Oliver Dalrymple, an experienced farmer of Minnesota, examined the land and became convinced of its value for wheat growing. He therefore entered into a contract with the owners to test the merits of the soil, the terms of which contract are understood to be that they were to furnish the stock, implements, and seed, with which to cultivate the land, and were to receive in return seven per cent. on the amount invested, Dalrymple to have the option of paying back the principal and interest, at which time he was to be granted one third of the land. In that year he broke 1,280 acres, and his first harvest, in 1876, yielded 32,000 bushels of the choicest wheat, or an average of a little more than twenty-three bushels per acre.

As soon as the results of Mr. Dalrymple's experiment became known, capital began seeking the depreciated railroad bonds and exchanging them for land, and labor flocked from adjoining states to preëempt government land. In May, June, and July,

1879, the sales of government land amounted to nearly 700,000 acres, and during the year, 1,500,000 acres were taken on homestead preëmption, and tree claims in Dakota.

The Dalrymple holdings comprised some 100,000 acres in all, and in 1878 the wheat acreage had been increased to 13,000 acres; and it was increased from year to year until in 1895 there were some 65,000 acres under cultivation. The cultivated land was subdivided into tracts of 2,000 acres, each tract being managed by a superintendent and foreman, with its own set of books. Each estate had suitable and complete buildings, consisting of houses for superintendent and men, stables, granaries, tool-houses, and other buildings. As a matter of course, to carry on the Dalrymple farm required the services of a large number of men and horses, the use of many plows, harrows, seeders, harvesters, threshers and engines, wagons, and other implements and tools. A settlement was effected in 1896 and years following, Mr. Dalrymple taking his share, and the great farm was divided and now comprises, besides the Dalrymple, the Howe and Cheney farms, and perhaps others.

THE GRANDIN FARM.

Another bonanza farm of large extent was the Grandin farm consisting of 38,000 acres, of which 14,000 acres in and around Grandin, and 6,000 acres near Mayville in Traill county, North Dakota, are now under cultivation. The first crop of wheat was grown and harvested on this farm in 1878. This farm was operated in a similar manner as the Dalrymple farm, being divided into tracts of 1,500 acres, managed by a foreman. The two farms employ some 300 men and 300 horses, and use 100 plows, 50 seeders, 75 binders, 10 separators, and 10 engines, etc. The average yield of wheat on this farm has been 17 bushels per acre. In 1899 a severe hailstorm destroyed eight sections of wheat on this farm, which was ripe for the harvest. That was the only widespread damage that has occurred to the crops of the farm in the twenty-one years it has been operated.

There are a number of other bonanza farms on both sides of the river, as the Lockhart and Keystone farms, respectively in Norman and Polk counties, Minnesota, and the Dwight, Fairview,

Cleveland, Downing, and Antelope farms in North Dakota. In fact, large farms have been opened in all the twelve counties, farms comprising three to five sections of land. They have served their purpose, and many of them have been reduced or divided and sold.

INCREASE OF POPULATION AND WEALTH.

It is interesting to note the rapid growth of population and wealth that has taken place in the Red River valley within thirty years. In that time many cities, villages, and hamlets, have been established and builded, some of which have grown until they may fairly be denominated as magnificent and metropolitan. It is hardly needed to name Fargo and Moorhead (one city in a commercial and social sense, although situated in different states); Grand Forks and East Grand Forks, similarly situated; and likewise Wahpeton and Breckenridge. Pembina and St. Vincent also are somewhat similarly situated, though more distant from each other. Besides there are Crookston, on the Red Lake river, Hallock, Warren, Ada, and Barnesville, in Minnesota, Grafton and Hillsboro, in North Dakota, and many others of less note in both states.

In 1870 the population of the twelve counties was about 1,000. In 1880 it was 56,000. In 1890 it was 166,000. In 1900 it is estimated to be 350,000. The valuation of property in the valley in 1870 was zero. At this date it is estimated at not less than \$100,000,000; and I am speaking of assessed valuation, which is, as a matter of course, far short of actual valuation.

CAUSES OF OCCASIONAL FAILURES.

While there has been a somewhat remarkable development of the wheat growing industry in the Red River valley, and it is undisputed that its soil and climate are as favorable as any in the United States, and perhaps in the world, yet many industrious men have scored failures. In every employment, business, or industry, failures sometimes occur; and therefore, if they have occurred in raising wheat where the conditions are favorable, it is not surprising. It is also clear that such failures are chargeable to the mistakes of the men so engaged, rather than to the country.

From a long observation of the methods employed and of the equipment of those who have pursued the work, I am of the opinion that the chief cause of failure has been the fact that men have undertaken larger tasks than their means warranted. In the early years of the settlement of the valley men were infected as with a craze. Wheat was selling at a dollar and upwards per bushel, while land could be had by paying the government fees for making entry, or by purchase at \$5 per acre. Stories of large yields and high prices were circulated, and many believed that they could make themselves rich in a few years by raising wheat. Many embarked in it on borrowed capital, secured at high rates of interest; and some capital is needed although no payment of money was made in advance on the land. It must be broken and seeded, the crop harvested, threshed, and marketed. To do this requires horses, implements, and hire of laborers. Many men, doubtless, who have commenced in this way have succeeded: but this result has been accomplished by superior skill, economy, good business management, and fortuitous circumstances. By far the greater number have failed in the end. They may have won some success for a year or more, but, when they found themselves ahead, greed got the better of their foresight and judgment, and they have contracted for more land and larger equipment. Then a year of light yield, of damage by flood, drouth or frost, and a fall of price in conjunction, have succeeded, which has greatly diminished the value of their harvested crop; while the labor bills, the payments for machinery, the interest on borrowed capital, have piled up, and so the failure comes.

If these men had been satisfied to let well enough alone, if they had continued to cultivate what they might have done without hiring much help or buying additional machinery, they would have weathered the unfavorable years, as their obligations would have been small, and as to obtaining a living, there is no question but that they could have done that, though their entire crop was a failure. They could have found work with their horses among their neighbors; they could have cut hay on the wide prairies and have hauled it to market, or found employment sufficient to keep themselves and families, in a score of ways.

It has been the undue haste to get rich, the reaching out and covering more land than they had means of doing, except on borrowed capital, that has been the ruin of so many. This inclination

has also had another injurious effect. It has produced poor cultivation, careless plowing and seeding, harvesting and threshing at unseasonable times, and general slighting of work, instead of thorough, timely and skillful cultivation, which always brings its reward, but the other kind never.

BETTER AND MORE DIVERSIFIED CULTIVATION NEEDED.

I am of the firm opinion that, whereas the average of wheat produced from an acre of land in the valley is about fifteen bushels per acre, or in some years a little more, it could be raised to 28 or 30 bushels; and that, while there are now produced crops ranging from 12 to 30 bushels per acre, there could be secured 30 to 40 bushels almost invariably. I am confirmed in this opinion by numerous instances where small fields which have been especially treated and cultivated, sown to wheat, have produced 35 to 40 bushels per acre. Thus we have seen pieces which had been cultivated to roots, potatoes, garden vegetables, etc., in previous years, the cultivation of which crops has required deep tillage, frequent stirring of the ground with plow or cultivator, and other pieces which had been seeded to timothy and pastured, being plowed and sown to wheat, produce 35 and as high as 42 bushels per acre in years when the adjoining large fields did not average more than 16 or 18 bushels per acre.

And so the conclusion is drawn that when the valley becomes more thickly settled, the value of land higher, compelling to better cultivation, and in less extensive tracts, no man undertaking to exceed 320 acres, the yield per acre will be increased. When this time comes, it will be accompanied also with more diversified farming. There will be flocks and herds, milk and butter, eggs and fowl, beef, pork and mutton, etc.; and then the Red River valley will be, according to its extent, the most productive region in the whole country.

RAILROAD FREIGHT RATES AND LEGISLATION.

Along in 1883, or 1884, the price of wheat at Red river points having fallen to about 60 cents, there was little or no profit in its production and in many cases a considerable loss, which caused great uneasiness and dissatisfaction among the farmers. They

looked about them for some relief, and, as the cost of transporting wheat to the terminal points was the same, namely, 25 cents per hundred pounds, or 15 cents per bushel, as when wheat sold for \$1.00 or more per bushel, they were of opinion that the freight charge should be reduced. They thought that the railroad companies might fairly be called upon to share with them some of the loss that they sustained. Appeals to the companies for reduction were without effect. Therefore the farmers resolved to secure a reduction, and other reforms connected therewith, by political action, and they began holding meetings, where the whole matter was discussed and resolutions passed. A good deal of complaint was also made against the alleged close alliance that existed between the railroad companies, the elevator companies, and the millers' association, by which every producer was compelled to pass his wheat through an elevator and pay its charges for handling, which fixed its grade, and he generally had to sell it to the elevator at such a price as the company owning the elevator might give. The farmer wanted the right to load on cars and ship direct to a terminal market. This agitation had its birth in Clay county, and it extended throughout the wheat-raising districts of the state. It was the promoting cause for the organization of the Farmers' Alliance, which afterward became a political party, and evolved into the People's party. It had its effect, and the legislature, in its session of 1885, passed an act, approved March 5, 1885, which regulated railroads and provided for the board of railroad and warehouse commissioners.

Briefly stated, the law provided that the railroad companies should make annual reports to the board of commissioners, showing amount of stock subscribed, amount of assets and liabilities, amount of debt, estimated value of roadbed, of rolling stock, of stations and buildings, mileage of main tracks and of branches, tons of through and local freight carried, monthly earnings for carrying passengers and freight, expenses incurred in running passenger and freight trains, and all other expenses, rate of passenger fare, tariff of freights, and many other minor particulars and things; and the commission was authorized to make and propound any other interrogatories relating to the condition, operation and control of railroads in this state, as might be necessary, and they were empowered to make investigation, examine books, etc.;

and proper penalties were provided for in case of refusal of companies to furnish the information demanded. It also required every railroad company to permit any person or company to build and operate elevators at any of its way stations. It compelled railroads to furnish cars on application for transporting grain stored in any and all elevators or warehouses without discrimination. It prohibited extortion and discrimination in rates, and also empowered the commission to notify any railroad company of any changes in rates, or in operation of roads, that in their judgment ought to be made for carrying passengers or freight, and, in case of refusal of the company to make them, to institute suit to compel such changes or reductions.

At the same time the legislature passed an act to regulate elevators and warehouses, and for the inspection and weighing of grain. The main provisions of this act may be stated as follows: Declaring all elevators and warehouses at Duluth, Minneapolis, and St. Paul, public; requiring their proprietors to take out license; providing that such elevators and warehouses shall receive grain for storage without discrimination, to give receipts therefor, to deliver the grain or return the receipt; requiring the owner or lessee to make and post weekly in a conspicuous place a statement of kind and grade of grain received, to send a report daily to the state registrar, and to publish rates for storage; prohibiting the mixing together of grain of different grades; providing for the appointment of a state weighmaster and assistants, who shall weigh grain at points where it is inspected; providing for the appointment of a chief inspector and of deputy inspectors, for the inspection and grading of grain under such rules as the commission shall prescribe, for which inspection a fee shall be collected sufficient to meet the expenses of the service; and providing that the commission shall establish Minnesota grades and publish the same.

Under these laws and amendments thereto, it is well known and undisputed that there has been much more freedom in the shipment of wheat and other grain than before. Farmers have since been able to order cars to a side track and load them from their wheat fields, or otherwise, whence they are hauled to such market as they shall designate. The commissioners have, under the law, defined and established grades of wheat, and the inspec-

tion is made at the terminals in accordance therewith, and the wheat is also weighed.

The operation of this law seems to have been beneficial and satisfactory for the most part. The season of 1898 was an exception, when it was charged that the grades were suddenly stiffened, by which the producer lost one or more grades, or from 4 to 7 cents in value per bushel of wheat, and that this stiffening was without just ground. These charges also originated, as the agitation for reduction of freight charges had done, in Clay county, and were made an issue in the state election that year; and it is believed that, as Hon. John Lind, the candidate for governor of the Democrats, Populists, and Silver Republicans, championed them, it gave him many votes. They were substantially verified by an investigation made by a joint committee of the legislature.

The freight on wheat, in cents per 100 pounds, since the settlement of the Red River valley, from different primary points to Minneapolis and Duluth, has been as follows:

	To Minneapolis			To Duluth.			
	Various Dates	Sept. 1, 1891	Oct. 9, 1895	July 21, 1898	Sept. 1, 1891	Oct. 9, 1895	July 21, 1898
	1873						
Morris	28c.	12	12	12	15	15	14½
	1872						
Breckenridge	35	14	14	13	15	15	14½
	1880						
Crookston	27	16½	16½	14	16½	16½	14
	1880						
St. Vincent	35	18	18	16	18	18	16
	1881						
Moorhead	25	15½	15½	14½	15½	15½	14½
	1881						
Fargo	25	15½	15½	14½	15½	15½	14½
	1881						
Glyndon	25	15½	15½	14	15½	15½	14
	1881						
Fergus Falls	23	14	14	13	14½	14½	14

OLD AND NEW METHODS OF WHEAT FARMING.

Since the first wheat was grown in the Red River valley, a revolution has occurred in plowing, seeding, harvesting, and threshing. By the old method of plowing, with the best plow and horses, one man with a 14-inch walking plow and a pair of

good horses, might plow two and a half acres of land in a day. Now one man with a gang plow, turning 28 inches, and drawn by four horses, can plow four and a half acres. The area is not quite doubled for the reason that the speed is somewhat slackened by increased weight, the driver riding on the plow, thus rendering the labor much easier to him.

By the old method of seeding by hand one man could sow sixteen acres in a day, and the land had to be harrowed and dragged, often with tree tops, to smooth it. Now with a drill, drawn by four horses, one man will put in twenty-five acres and no harrowing is necessary afterward, although many harrow the land previous to seeding.

By the old method of cutting grain with a cradle a good man could cut four acres, while it required another man to rake and bind it. Now with the best binder, drawn by three horses, he can cut sixteen acres, and the machine binds it, and carries along a number of bundles and drops them in rows.

In threshing there is even more disparity in the amount accomplished by modern machinery over the old methods. In fact, the difference is so great that a comparison is not worth while. With the best and largest threshing machine, 3,500 bushels of wheat can be threshed in a day. Thus on land producing an average of 20 bushels per acre, one day's work will thresh the wheat grown on 175 acres. The area of land covered in a day will be more or less than this, according to the average yield per acre. To operate this machine, which is provided with a self-feeder and an automatic band-cutter, also a blower which stacks the straw, only four men are required. To haul the bundles to the machine requires eighteen men and twenty horses, or ten wagons with two horses to each. The number of men and horses and wagons required to do the hauling of the threshed wheat from the machine to the granary, elevator, or cars, depends upon the distance to be traversed. It costs at the present time ten cents per bushel to thresh the wheat and load it into wagon tanks.

WHEAT PRODUCTION AND ITS VALUE, 1898.

I have gathered the statistics of wheat acreage and yield for 1898 from the most reliable sources obtainable, namely, from the county auditor's office of each county which lies partly or mainly

in the Red River valley south of the international boundary. Some of the officers reported that the statistics on this head as furnished by the assessors were not full, owing to the failure of some of the assessors to make returns; but in these cases, at my request, the auditors furnished me with estimates based upon other sources of information. Therefore, although the figures in the following table cannot be claimed to be absolutely correct, they approach accuracy, and, it is believed, are in no case excessive.

Acres and Production of Wheat in 1898 in the Counties of the Red River Valley.

Counties in Minnesota.		
	Acres.	Bushels.
Wilkin	126,418	1,896,270
Clay	210,440	3,367,040
Norman	166,377	2,438,662
Polk	347,346	4,862,844
Marshall	186,716	2,614,024
Kittson	142,857	2,000,000
	<hr/>	<hr/>
	1,180,154	17,178,840

Counties in North Dakota.		
	Acres.	Bushels.
Richland	226,720	3,057,714
Cass	495,499	7,916,896
Traill	271,907	5,371,129
Grand Forks	329,498	5,676,322
Walsh	257,500	3,960,175
Pembina	258,211	4,956,680
	<hr/>	<hr/>
	1,839,335	30,938,916
	<hr/>	<hr/>
Total.....	3,019,489	48,117,756

Assuming that the average price of wheat for the year's crop at points of production was 60 cents per bushel, the value of the crop for 1898 to the producers was \$28,870,653. This sum measures the wealth-creating value of this one staple for the year named. But this is not the whole story. The wheat farmers of the twelve Red River valley counties produced a greater value. They added a much larger amount than nearly twenty-nine million dollars to the wealth of the country. I assume that this crop was transported either as wheat or flour to New York. As a matter of course, not all of it was actually carried direct to New

York, but a large part of it was carried to that port, either for domestic consumption or for export; and it is fair to assume that it would cost, on the average, as much in local freights and handling charges to distribute the other portion to the consumers throughout the country as to carry it through to New York. The cost of carriage to New York by all rail is about 24 1-2 cents per bushel; partly by rail and partly by lake and canal it is about 20 cents. Basing the calculation on a rate of 21 cents (arbitrarily found, for it is difficult to figure on an average rate for the year accurately, owing to the fluctuations in the lake and canal rate, or to ascertain the amount shipped by that route and the amount shipped by rail), the added value is \$10,104,728. This increased value is properly assigned to the wheat, for the wheat pays the whole cost of marketing it. This large sum of ten million dollars was earned by the railroads, elevators, inspectors and weighers, boats, transferers, etc., which gave employment to large numbers of men. Thus the wheat produced in 1898, by the farmers of these twelve counties, which include the part of the Red River valley in the United States, added to the wealth of the country some thirty-nine millions of dollars; and in the year 1899, just past, it is probably nearly as much.

An explanation is needed, however, as to the actual cash price received by the producers for their crop of wheat for the year 1898. I find upon a careful examination of the price paid at Moorhead that the average price for the year was about 57 cents per bushel; that its average price for the four months of September, October, November, and December, 1898, was 55 cents; and for the remaining eight months of the year, from January to August, 1899, the average price was 59 cents, making an average for the year of 57 cents per bushel. It is a fact which must be recognized that the producers in the section I am treating of sell the bulk of their crop in the four months prior to January 1; so that I will make the calculation of value of the crop produced in the twelve Red River valley counties on this basis of its average local price for that period, which shows as follows: 48,117,756 bushels at 55 cents is \$26,464,765.80. This is the minimum amount of value, as, for such part of the crop as was sold by producers after January 1, 1899, four cents more per bushel on the average was realized. This explanation does not affect the foregoing argument so far as it relates to the increased value of the

wheat at points of consumption and export, all of which must be included in any calculation as to the wealth-creating value of the crop.

LETTER FROM HON. CHARLES CAVALIER.

I have mentioned Charles Cavalier, of Pembina, who has taken great interest in my labors in gathering materials for this paper, and who has given me much valuable assistance. In further acknowledgement thereof, and in compliment to him, I desire to embrace herein a portion of a recent letter of his to me as follows:

"It would be a pleasant thing for me to be present with them [meaning this annual meeting of the society] and see some of the old faces of fifty years ago, but alas, the infirmities of eighty-one years forbid it. Present my respects to them, and tell them that though far away, I am with them in mind if not in body. I still keep up an occasional correspondence with my old friend, A. L. Larpenteur, and through him I hear from Bill Murray and others of the old timers, and I see occasionally the name of Ex-Governor Ramsey, for whom I have a high regard and a warm spot in my heart. He appointed me first territorial librarian, and has in many instances aided and befriended me. May he live until he learns to enjoy the good things of this footstool of God, and then, after his life of usefulness and goodness, tranquilly fall asleep and awake in the kingdom prepared for him and all of us who have kept God's commandments or tried to do so. Such is the wish of this old settler whose mundane existence of close onto eighty-one years has been one of pleasure and enjoyment far exceeding its many ills and misery. My health is now tolerably fair."

GREATNESS OF THE RESOURCES OF MINNESOTA.

I have not found it practicable to treat wheat-growing as a state-wide industry, owing to its magnitude, and have confined myself strictly to the subject assigned to me, which has necessitated as much labor and research as I have been able, while editing a daily and weekly newspaper, to devote to it. With more abundant leisure I might properly have touched upon the expansive prairies of the state, both level and rolling, and told something

of their productions, not only of their wheat, which makes the best bread ever eaten by man, but of their rye, oats, barley, corn, flax-seed, and potatoes; of their green meadows, which abound with luxuriant grass and furnish food for countless flocks and herds, and of the Minnesota cow, whose milk, after being treated in the creameries, makes the very best butter known to civilization; of the fruit orchards, gardens, flowers, shrubbery, etc., together with the neat and cozy dwellings that dot them o'er and are the homes of a hardy, happy, and prosperous people.

I might have touched upon the great extent of forests, from which have been taken so many millions of feet of the best white pine and hardwood lumber, adding largely to the wealth of the state, and which are not yet exhausted.

I might have told of the iron mines, which, for richness and extent, have been one of the marvels of the closing part of the nineteenth century, and which are yet, maybe, to exceed the most sanguine expectations of enthusiasts; of the mighty river having its rise in our state, whose commerce has been so great a factor in the making of the history of the North American continent, and advancing its civilization; and of the smaller rivers, which are interesting in other ways.

I might have dwelt at length upon the surpassing beauty of the state's landscape, whose ten thousand lakes are bordered by a superb growth of primeval forest timber, through whose foliage the pure air of a wholesome climate sings a ceaseless lullaby to exhausted humanity, which seeks quiet and rest upon their bosom. In these lakes the finny tribe leap and splash and entice the skill of the expert angler, as well as the efforts of the novice, affording the most exquisite enjoyment and the most health-giving and recuperative recreation that man is blessed with, and whose skill, good luck, or patience is rewarded by the catch of as good food fish as swim.

And, lastly, I might have said that this great, resourceful and fertile state of ours, at the age of fifty years, contains a population of nearly two millions of as intelligent, generous, brave, and at the same time as gentle, industrious, progressive and patriotic people, as can be found in any state in all this broad land.

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