

FOURTH REPORT
OF THE
DEPARTMENT OF AGRICULTURE
OF THE PROVINCE OF
BRITISH COLUMBIA.

1894.



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Live stock

Horses marketed,	77 head.
Cattle " and consumed	1,477 "
Sheep, "	475 "
Pigs, "	459 "
Poultry, "	1,230 "

UPPER NICOLA,

Including Quilchena, Douglas Lake, and Stump Lake; the central part of the district, being in about Lat. 50.15 N. and Long 120.25 W. There is no meteorological station in the district, the records of that at the lower end of Nicola Lake will, however, I think answer for the lower parts; many parts, however, such as Douglas Lake, Minnie Lake, etc., are considerably higher, and the climatic conditions would therefore be necessarily different.

REPORT OF MR. T. BULMAN, CORRESPONDENT.

Yield and price---

Wheat (spring),	1,500 pounds per acre,	1½c. per pound.
Barley,	1,600 " "	\$27 per ton.
Oats,	1,700 " "	25 "
Rye,	1,800 " "	26 "
Peas,		30 "
Hay,	2,500 " "	18 "
Potatoes,	8½ tons, "	15 "
Mangolds,		10 "
Carrots,	8 " "	15 "
Turnips,	10 " "	10 "
Onions,		60 "
Beets,		40 "
Cabbages,		20 "
Parsnips,		30 "

The yield of fruit was fair; the quality did not seem quite as good as some years, apples seemed a little sour. The following were the prices obtained during last year:—

Apples (green),	3 cents per pound.
" (dried),	12 " "
Plums and prunes (dried),	12½ " "
Peaches,	12 " "

Horses for farm purposes (Clydesdale crosses), \$100. Horses, ordinary, for riding and stock purposes (crosses from Indian ponies, by trotting or racing stock), \$40 to \$60. Cattle for beef (Herefords, first cross), 25c. per pound; \$33 per head. Sheep for mutton, Shropshires are in favour, \$5.50. Pigs for pork, Berkshire; some favour crossing with Tamworths, \$5.50 per hundred pounds. Poultry, Plymouth Rocks, \$5.50 per dozen. Eggs, 30 cents per dozen. Butter, 30 cents per pound.

We hope when Kootenay is opened it will help this district, as we depend greatly on mining industries and miners. It will be a help if the C. P. R. will give us as low rates as possible, so that we can compete with the North-West.

The prices are low in horses and cattle, on account of the falling off of trade below; the supply exceeds the demand in summer, and the cattlemen are not in a position to feed for winter beef, and horses are being shipped in from other parts. All other stock held their own in prices.

COMMUNICATION.—Our market is from 25 to 40 miles distant by means of waggon road which is quite a drawback. Kamloops is the shipping point, being central for four districts, and good prices are obtained.

WEATHER. Winter of '94 was very good; feeding commenced in January, cattle wintered out in some places where feed was good. The spring was late, crops grew fast when the weather settled. Haying and harvesting were exceptionally good; our hay is as green almost as before cutting. Cannot give snow and rainfall; snow came in November, but all went off again and the hills were bare at Christmas. Good weather up to Christmas. Cattle outside until January.

TIMBER. Yellow pine and fir or balsam, good, easily procured, plenty for farm use. Low land is mostly grown over with willow which is very difficult to clear.

WATER. Water good. The cost of bringing water varies to the lay of the land; it is for the most part easily got from creeks running through nearly all the ranches, but a great deal may be done by way of saving the spring water, which has not been thoroughly gone into yet.

PASTURAGE. The land in Stump Lake District is adapted only for pasturing cattle, being rolling hills. Bunch-grass forms the greatest part of the feed. Wormwood or sage grows up in the fall, and makes very good winter feed.

FENCING.—Russell fencing is in favour with some, but is tedious to erect, and expensive. Barbed wire is also greatly used and makes a good fence (4 wires), costing about \$120 or \$130 per mile.

DISEASES AND PESTS.—Grasshoppers appeared a little on the increase, but did not do general damage.

LABOUR. Whites, Chinese and Indians are plentiful. Wages average, whites, \$25; Chinese, \$15 to \$20, and Indians, \$20 per month.

Timothy, clover, oats, wheat, especially barley, do well here. Cattle-raising is the chief object here. After some experience I find it is not a suitable country for sheep, as the bunch-grass will not stand being cropped off short, as it freezes out in winter.

Our animal pests are coyotes, which are a great pest, especially to sheep and young calves, and have nearly cleaned out the prairie chicken and ruffed grouse which is a drawback to this district. The bounty now on coyotes is too small as a farmer is never paid for poisoning, so many getting away and nobody will make a business of it. I saw four to-day in one band, and the range is tracked all over with them.

Foxtail grass is our worst enemy in the timothy meadows. Grain-raising is gradually becoming more interesting to ranchers, and potatoes also, are being sought after in our neighbourhood, which are very fine quality and even size.

An unsigned report from Rockford says that fruits are successfully cultivated, but that trees are young. Grain and hay-raising is recommended. Well adapted for sheep, but not entered into: the wool is good and averages 11 pounds per fleece. Pests are lice on hops and apple trees, small black flies on apple trees, mice, gophers, skunks and coyotes.

MR. E. O. ROYRKE, Quilchena, says that most of the ploughing is done in the fall, and that foxtail is a bad weed with him.

(For statistics *see* under Central and Lower Nicola.—J.R.A.)

CENTRAL AND LOWER NICOLA.

Including the valley of the Coldwater River, which flows into the Nicola a few miles below the lake. The town of Nicola, at the foot of the lake, is in latitude 50.16 N., and longitude 120.13 W. Altitude of lake, according to Mr. Clapperton, is 1,920 feet. I had previously given it as 2,120 feet, but I think Mr. Clapperton is nearer correct. Public schools are situated at the town of Nicola and at Lower Nicola, with an average daily attendance of twenty-five pupils. There is a third-class meteorological station at Nicola Town, E. Dalley, observer.

Rainfall for the year 5.83 inches.

Snowfall " 22.5 "

Much depression exists amongst the farming population on account of the low prices of grain, horses, and cattle. Much of this might, I believe, be avoided by going into those branches of agriculture recommended by correspondents both in this valley and elsewhere, viz., the raising of swine and dairying; the products of both these industries always finding a ready sale. A more suitable situation for a creamery than somewhere about the confluence of the Coldwater and Nicola Rivers would, I imagine, be hard to find in the upper country, and provided a sufficient number of cows could be got within a reasonable distance it would, I am of opinion, be the means of infusing new life in the settlement. I earnestly commend Mr. Victor Engstrom's remarks on the subject of dairying and pig raising to the attention of the ranchers. And in connection with dairying comes the question of pasturage. There is no doubt that the native grasses will have to be supplemented with cultivated grasses and clovers. Mr. Armitage, it will be seen, advocates orchard grass, both for hay and as an aftermath, and I heartily endorse all he says in its favour. Timothy is without doubt an indifferent grass for milch cows as hay, and it affords little or no pasture, whilst orchard grass with the slightest moisture will provide good succulent food for cows during the summer and autumn. I have said a good deal in favour of "Bromus Inermis" in my former reports, and I have no reason to change my opinion of it, as being the best grass for dry tracts which can not be irrigated. Further on I have said more of this excellent grass, to which I beg to refer my readers.

REPORT OF MR. JOHN CLAPPERTON, CORRESPONDENT, (NICOLA).

Yield and price:—

Wheat (fall), 1,500 to 2,000 lbs. per acre, 1 1/4 cents per pound.

" (spring), " " " 1 1/4 " "

Peas, 2,000 to 3,000 " " 1 1/4 " "

Hay 1/2 to 2 tons per acre, \$6 to \$15 per ton, according to quality and location.

Hops are not grown for sale.

Potatoes, 5 to 10 tons per acre, 1 1/2 to 3 cents per pound.

Mangolds, 10 to 25 " " 1 1/2 to 3 " "

Carrots, 5 to 10 " " 1 " "

Turnips, 10 to 25 " " 1 1/2 " "

Onions, " " 2 " "

The yield of fruit was fairly good; quality good. The prices obtainable were as follows:—

Apples, 3 to 3 1/2 cents per pound.

Pears, none grown.

Plums and prunes, 5 to 8 cents " "

Cherries, 5 to 8 " "

Fruit cultivation at Nicola has not been a complete success. Have not seen pears nor peaches attempted to be grown. Plums, prunes, and cherries do fairly well some years, but not certain every year.

Horses for farm purposes, \$150 to \$300 per pair, according to merit.

" ordinary, for riding and stock purposes, 25 up to 75 per head.

Cattle for beef, 3-year old steers, 30 " "

Sheep for mutton, 4 to 4.50 each.

Pigs for pork, 5 cents per pound, live weight.

Poultry, \$4 to \$5 per dozen, according to size.

Eggs, 30 cents per dozen.

Butter, 30 " per pound.

Wool, no local demand.

Nicola is isolated, being 60 miles from Kamloops and 50 from Spence's Bridge, C. P. R. station. A line into Nicola would allow of export, hence raise prices for produce.

COMMUNICATION. 60 miles to Kamloops, waggon road.

50 " Spence's Bridge "

WEATHER. We had a very dry summer, ground in fall almost too dry and hard to plough. Don't know how much rain or snow fell.

TIMBER. Fir, pine, cottonwood, plenty for every requirement.

WATER. Only sufficient to irrigate lands taken up by old settlers. Water might be laid on to other lands, but until agricultural matters improve outlay would be lost as cultivation won't pay at prices for produce, or rather there is no demand for produce at any price.

ALTITUDES. General outline mountainous. Nicola Lake is 1,920 feet above sea level. Should say that mountains in vicinity have an altitude of 5,000 to 6,000 feet.

SOILS. Sandy loams and heavy clays are found on the benches. Alluvial and vegetable deposits in bottom lands. Cereals and roots do well on nearly all.

PASTURAGE. All natural pasturage is hilly, forage plants chiefly bunch-grass.

FENCING. Best fence now built is called "Russell" wire fence; costs about \$150 per mile. Fencing material is generally convenient.

LABOURERS. Whites, Chinese, and Indians are all plentiful. Wages on an average are from \$1 to \$1.25 per day with board.

The crops most successfully cultivated are chiefly spring sowing of roots, grains and grasses. Linseed will grow and ripen, but it is not cultivated. Sugar beet and rape are not cultivated as a field crop.

DISEASES AND PESTS. Amongst garden vegetables, numerous. Epizootic and strangles among horses. Mosquitoes and horse-flies, coyotes, skunks and lynx, thistles, wild buckwheat and wild mustard.

REPORT OF MR. H. S. CLEASBY, CORRESPONDENT, LOWER NICOLA.

Average yield and price—

Wheat (fall),	1,800 pounds per acre.
" (spring),	1,500 " "
Barley,	2,000 " "
Oats,	1,500 " "
Peas,	1,800 " "
Hay,	1 $\frac{1}{4}$ tons. "
Potatoes,	8 " "
Mangolds,	15 " "
Carrots,	10 " "
Turnips,	12 " "

The crop of fruit was an average one and of good quality. Apples alone are any success, and even they sometimes succumb to the intense frost. The varieties are principally Russian ones. Do best on well-drained soils, if protected from winds, better still if protected from winter sun. The average price obtained was 4 cents per pound.

Horses, for farm purposes, up to \$120.

" ordinary, for riding and stock purposes, about 50.

Cattle for beef.—Cows, 25.

" Steers (2 years), 22.

" " (3 years), 30.

Sheep, for mutton, 4 to \$4.50.

Pigs, for pork, 5 cents per pound (live weight).

Poultry, \$4.50 per dozen.

Eggs, 20 cents per dozen.

Butter, 30 cents per pound.

Cheese, 25 " "

The prevailing depression seems to have reduced prices.

COMMUNICATION. Nearest C.P.R. station is 40 miles; nearest town, Kamloops, is 68 miles.

WEATHER. The winter was long and dragging; there was not very much snow.

TIMBER.—Timber on benches, yellow pine; in the mountains, fir; on low lands, cottonwood and Balm of Gilead. Timber becoming scarce; sufficient as yet for farm purposes. Not very hard to clear.

WATER. All land in this district requiring water can be irrigated.

ALTITUDES. Valleys about 2,000 feet above sea level; mountains from one to three thousand feet higher.

SOILS. High benches, principally clay or shun; lower lands, alluvial deposits on gravel subsoil.

PASTURAGE. Large quantity of pasurage in this district; all bunch-grass.

FENCING. (1.) Log fences, if proper timber is to be had. (2.) Rail fence, whether round or split, cottonwood or fir. The "Russell" is a good kind of rail fence. (3.) Wire fence; that without the barbs is now preferred, as the barbs are a great source of injury to stock.

DISEASES AND PESTS.—Coyotes are one of our greatest pests; the reduction of the bounty is generally condemned.

LABOUR. Whites, Chinese, and Indians are plentiful; wages average \$1 per day.

DISEASES OF PLANT LIFE. Smut; mildew in peas.

DISEASES OF ANIMAL LIFE. Big-jaw in cattle. This year we had a kind of influenza among horses; some people have lost animals; it is called epizootic.

INSECT PESTS. Grasshoppers, mosquitoes.

ANIMAL PESTS. Coyotes, skunks, wild horses, mountain lions, weasels.

NOXIOUS WEEDS. Wild oats, wild buckwheat, Canada thistle, fox-tail (squirrel-tail) grass.

For noxious weeds, I would recommend thorough cultivation. Would advocate restoration of bounty on coyotes to \$2.50 per scalp; \$1 is not inducement enough.

Sugar beets, which are grown to a limited extent for hog feed, does very well.

Agriculture here is in a very depressed state.

THE FOLLOWING REPORTS WERE ALSO RECEIVED:

MR. H. D. GREEN-ARMYTAGE: Besides the usual grains and roots, nearly all grasses and clovers, excepting alfalfa, are successfully cultivated; corn only partially, and in warmer parts tomatoes ripen occasionally. For this part I recommend dairying and hog-raising. A surprising amount of both butter and bacon is imported, and no cheese is made, and yet much used. Poultry are raised in considerable numbers and systematically. Most of the ploughing is done in the spring. The pests here are bush-tail rats and skunks; Canada thistle is spreading, and also squirrel-tail grass. Much land here capable of raising crops if water for irrigation was available. The cost of putting on the land is beyond the various owners' powers.

WILLOWDALE, NICOLA VALLEY,

7th November, 1894.

DEAR MR. ANDERSON: During the last two weeks I have received from your office copies of the 3rd Report, which I have re-distributed amongst those who would, and I think most of them do, appreciate them. I also take this opportunity of thanking you for your kind remembrance of me.

I may as well take advantage to say what I have continually thought since making out my last report, that—*the "Grasses"*—there is none to compare, in my estimation, with orchard grass for this valley. It is about the earliest grass to ripen, and thus is ready same time as clover, and the aftermath exceeds either timothy or *Bromus Inermis*. It stands the dry climate better than the former, and is more leafy. As your report remarks, the generality of people seem to have rather an absurd veneration for timothy, and cannot be got to believe there can be anything in the world as good even as timothy.

The weather has been open and mild so far, and it looks as if it might continue.

I remain,

Yours faithfully,

H. D. GREEN-ARMYTAGE.

MR. R. M. WOODWARD, Lower Nicola:—All varieties of crabs and standard hardy Russian varieties of apples have proved the best for this locality. Apples do best on a light loam; prunes on a warm, sandy loam; pears are not cultivated. German prunes grow well, but have not commenced to bear. The common red Mazzard cherry does middling; other varieties not at all. A few grapes have done fairly well. Linseed has been tried on a small scale; it produces wonderfully well as to seed. Sugar beets have been tried, with good results. The diseases and pests are: Green and woolly aphids troubling some of the apple trees; our horses are troubled with a cough very like la grippe; fowls are troubled with roup or something of that nature; mosquitoes, house-flies, bot and bull dog flies are hard on cattle and

horses: mink, weasel, coyotes, lynx, and skunks are the animal pests; the worst weeds are wild oats, buckwheat, wild pea vine, and in some parts Canada thistle. Any of the noxious weeds can be got rid of by a good use of the plough at the right season, viz., summer fallowing. The great drawback to agriculture here is the want of water for irrigation, and want of market. Wages, too, from some cause, are higher here than in any other part of the Province.

MESSRS. McCULLOUGH BROS., Otter Valley:—We recommend hay and cattle-raising for this part of the country. A good district for dairying or cheese making, but is not carried on to any extent yet. To insure good crops, irrigation is necessary, except in the low bottoms.

MR. VICTOR ENGSTROM, Coldwater River:—Timothy and grass mixtures are the mainstay of the cultivated crops; also oats and peas mixed for hay, also rye. Barley, oats and wheat are the grains of value in the order named, though of second importance to the hay crops. Enough potatoes are cultivated for table use. No fruit are as yet cultivated along the Coldwater. The dominating live stock at present, I may say, consists of horses, or more properly, cayuses, owned by the Indians. The settlers live stock are principally cattle intended for dairying, mostly scrub cows with some Shorthorn blood. Pigs are produced to a lesser extent, and horses sufficient for ordinary use. For this locality, I particularly recommend dairying with pig-raising as a supplement. If there had been a market for horses, then horse-raising would have been of first importance. The only drawback for sheep-raising are the scores of coyotes, otherwise the country is suitable for sheep. Dairying has been commenced lately, it seems to be the best pursuit for the small farms that are located along the Coldwater. Stock-raising for beef is here made absolutely impossible on account of the low prices of late years. Poultry are only raised for domestic use as yet. As much of the ploughing as is possible is done in the fall, what remains is finished in the spring. Breaking land is done in summer.

The following are the diseases and pests: The large green grasshopper or locust, was frequently seen this summer, but two smaller species, not half the size of the first named, were quite numerous: when walking through the grass some twenty or more of them were constantly to be seen in the air. The bands of horses, and especially colts, which I have seen here, were for a month in the summer subject to a disease that the farmers call "stamper" (distemper?)—big swellings, which, when ripe or cut open emptied out a thick yellow matter. Principal location of disease: throat, close to the head, the neck, under and above the eyes. Mortality seems to be caused only by choking. Only a few cases of death, although nearly all of the individuals that I noticed in the bands affected were more or less subject to it. It would be advisable to exterminate such wild, or nearly wild, cayuses that are not attended to in the winter, or never used as pack-horses, or rounded up and *corralled* at regular intervals.

Agriculture is as yet in its infancy here (only four settlers). Preparations are being made for dairying. Stable and dairy houses are being put up. There are good facilities for irrigation both on the Indian reserve and the settlers land. Fencing is not half way completed yet. Indians raise mostly grain, wheat, oats, barley, peas and potatoes.

MR. PAUL J. GILLIE.—The pests and noxious weeds are: Coyote, skunk, weasel, bush rat, mink, wild oats, buckwheat, and thistles. Prospects for agriculture are very poor, there being no market except home consumption.

MR. W. CHARTERS.—We are exceptionally free of diseases and pests; only once in twenty years have grasshoppers done any damage worth speaking of. For want of a market, we are drifting into debt, and many of the farms are mortgaged that formerly paid well.

MR. S. M. ROBERTS.—Sugar beets grow very large and fine. As the acreage is small, the ploughing is done in the spring. We are troubled with smut, gophers, wild oats, mustard, cockle, etc. For combating the above mentioned weeds, I recommend summer fallowing and keeping the ground well harrowed.

MR. F. D. WOODWARD.—This country is not suitable for sheep; the average fleece weighs five pounds. The only disease of plant life is smut; the other pests are lice, wood-ticks, garden insects of different kinds, gophers and black mice. For the weeds, which are many, I recommend summer fallowing. Agriculture could be further prosecuted if our water supply were more easily obtained.

Messrs. J. Clapperton, H. S. Cleasby, R. M. Woodward, Paul J. Gillie, and S. M. Roberts, all recommend mixed farming for Nicola. In addition to the above named, Messrs. H. D. G. Armytage, and McCullough Bros. say that it is a fairly suitable country for sheep, but that very few are raised; fleeces average four to six pounds. In addition to above, Messrs. W. Charters and F. W. Woodward join in saying, that although dairying is not extensively carried on it is increasing and pays well, and is capable of great expansion. Most of those named say that poultry-raising, so far, has not been made a business of, and that a few people are getting good-sized flocks; that the ploughing is done principally in the fall; that all the usual grains, roots, most kinds of grasses and clovers, small fruits, and the harder varieties of apples and crabs, are successful.

THE WHOLE OF NICOLA.

Land owned by 58 settlers, 133,601 acres.

Of which 4,415 acres are cultivated.

17,639	"	woodland or forest.
2,388	"	swamp or marsh.
3,834	"	rock.
105,325	"	prairie or pasture.

Under crop—

Wheat,	199 acres.
Barley,	170 "
Oats,	543 "
Rye,	10 "
Peas,	38 "
Potatoes,	47 "
Mangolds and carrots,	21 "
Turnips,	1 "
Other roots and vegetables,	15 "
Hay,	2,766 "

Fruit trees—

Apple,	749 number.
Pear,	34 "
Plum and prune,	127 "
Cherry,	65 "
Other,	43 "
Small fruits,	1½ acres.

Live stock—

Horses, all kinds,	1,134 head.
Cattle,	12,013 "
Sheep,	1,278 "
Pigs,	759 "
Poultry,	2,463 "

Value of agricultural machinery and implements, \$17,925.

" buildings, fences and other improvements, \$161,000.

PRODUCE.

Grain, &c.—

Wheat,	158½ tons.
Barley,	118½ "
Oats,	412 "
Rye,	4 "
Peas,	163½ "

Roots and vegetables—

Potatoes,	438½ tons.
Mangolds,	20 "
Carrots,	15 "
Turnips,	52 "
Other,	54½ "

Hay—

Cultivated,	4,472 tons.
Wild,	2,427 "

Fruit—

Apples,	5,645 pounds.
Plums,	220 "
Cherries,	75 "
Other,	3,400 "

Miscellaneous

Butter,	5,080 pounds.
Eggs,	40,065 dozen.

Live stock—

Horses marketed,	96 head.
Cattle " & consumed,	2,779 "
Sheep, "	374 "
Pigs, "	367 "
Poultry, "	520 "

NORTH BEND,

In the canyon of the Fraser, about the dividing line between the Upper and Lower Country, lat. 49° 53' N., and long. 121° 23' W. The vegetation, however, partakes more of the character of that of the Lower Country, the timber being principally Douglas fir: there is also plenty of maple (large and vine), alder, hazel, birch, &c. Mr. John Lyons kindly took me about the place, and gave me a good deal of information. The agricultural lands in a place of this description are naturally limited, being confined to the flats and benches immediately adjoining the river, back of which the mountains, which are rugged and precipitous in the extreme, rise to a great height. What land there is, is of great fertility, which, combined with the mild winter climate and hot summers, produces fine fruits of all kinds. North Bend being a divisional point on the Canadian Pacific Railway, it is the centre of a small population with several stores and hotels, besides the usual railway buildings. The C. P. R. Hotel, presided over by Miss Mollison, is worthy of a visit. The grounds surrounding it are tastefully laid out, and contain all the plants and fruits that are usually cultivated. Accompanied by Mr. Cancellor, the Government Officer, I crossed the river and visited Boston Bar and the places on that side, where there are some old fruit trees. These bear large quantities of fruit and are fairly free of pests, the green aphid and apple and pear scab being the only noticeable ones.

MR. JOHN LYONS reports that all root crops are produced in abundance. All crops require irrigation from April 1st to September. Our soils are light sandy soils, well adapted for fruit-growing and vegetables of all grades. I recommend mixed farming and cattle-raising for this locality. Climate well adapted for flax production. The dairying industry gives good results here for milk and butter. Poultry-raising may be carried on with good results. Most of the ploughing here is done in March. There are very few pests. This section is an exceptionally dry one. We produce two very good crops off meadow land, by irrigation. Practically speaking, there was no rain from 10th March until 20th October. There is abundance of water from mountain streams for irrigation. Winter of 1894-5 was remarkably