

Story of The Year's Sugar Record in Utah and Idaho

THE year 1903, in the beet sugar industry of Utah and Idaho, goes out with less of an exuberant feeling than it came in. At the opening of the year, and especially in the spring, when the season's planting was under way, it looked as though the farmers of the two states might confidently rely on a crop of 500,000 tons of beets. As late as June the fields in every district bore excellent promise and no one thought of placing the crop estimates of the year at a lower figure. Then came the drouth, the mysterious blight for which the keenest government experts have been unable to find a name or suggest a remedy, the devastating white fly followed, and when the crops were harvested, it was found that the 500,000 acres had shrunk fully 25 per cent.

As nearly as can now be learned the total of the year's tonnage in both states will approximate 370,000 tons. The blight fell in erratic fashion. It was worst in the Sevier, Sanpete, Lewiston, Blackfoot, and Malad districts; Ogden and Logan suffered; Garland and Idaho Falls were almost free from the trouble, and Sugar City was practically untouched. In some districts the farmers' loss was almost total, in others partial, and in the others the crop was greater than ever before.

Heavy as the losses were, it will surprise some of those who have been diligently engaged in looking only on the dark side of the picture, to learn that the 370,000 tons harvested exceeded by 70,000 tons, the crop of 1904. While many farmers who planted beets this year, realized little or nothing, still the majority must have fared well, for the records of the several sugar companies show that close to \$1,700,000 has been paid out for beets this year, as against \$1,350,000 for 1904.

Evils never arrive singly, and another circumstance which has accentuated the feeling of depression in sugar circles, is the low price of refined sugar which has prevailed for the past several months, at the period too, when all the local companies had to sell as much as the markets would consume, in order to meet the heavy demands made on them for beets, labor, coal, freights and supplies. These low prices, averaging nearly a cent a pound below this time last year, have been brought about through a variety of causes. First, the collapse of an attempted cornering of the sugar market in France, which spread ruin in its wake, caused several suicides and threw upon the markets immense accumulations of sugar which had to be cashed at any price; second over production in Europe, caused by the high prices of the previous year, which tempted the farmers of Germany and France to increase their acreage, and as is usually the case, to overdo the task and pull down the world's prices to their own detriment.

The causes above detailed have had the effect of making investors in the sugar industry quite cautious as to new investments. The promised factory for Sanpete and Sevier and the plant expected to be built at Payette, Idaho, will therefore be deferred another season, so that the only new factory under construction next year in Utah and Idaho will be the one at Nampa, Ida. It is confidently expected that the fertility of the soil in that district will speedily submerge this plant with beets and show the necessity that exists for another, in which event the building of the Payette factory will be proceeded with along the original lines.

All sugar authorities agree that the bottom has been reached in the matter of prices and other depressing influences, and that a better outlook is assured. This view is well set forth by the "Louisiana Planter & Sugar Manufacturer" of a recent date, which says:

"The tragic crash in the sugar market in Paris has had the effect of carrying prices below any normal level and it is now fair to expect some reaction, although the market responds very reluctantly in that direction. The present reduced prices of sugars will almost surely increase their consumption, and apart from that there ought to be an enormously increased distribution of sugars in all the trade channels of the world, as the stocks everywhere have been depleted because of the adverse conditions that have surrounded the market now for four or five months. It is now stated that various French factories are compelled to treat in advance with their beet growers for a reduction in prices, or to go into insolvency, declaring their inability to fulfill their contracts as already made. This is a straw to show which way the wind blows and it would look a little as if this wind would rise into a gale during the next three or four months."

GARLAND AND LEHI RECORD.

By George Austin, Agricultural Superintendent of the Utah Sugar Company.

THE Bear River valley is probably the best locality for sugar beet culture of any point in the United States. In the spring of 1903, the Utah Sugar Company commenced to build the great factory that has done so much for that beautiful valley. That season, 16,000 tons of beets were worked through the mill and converted into the granulated sugar. In the season of 1904, 20,000 tons of beets were raised and handled through this factory, and by the time this appears in print, the crop for the year 1905—amounting to 60,000 tons of beets, will have been made into granulated sugar. Had it not been for the ravages of the white fly or leaf hopper, from 75,000 to 85,000 tons of beets would have been raised. However, I believe that next year will again show an increase in the tonnage of beets raised in this valley, as the farmers are a very intelligent class of people and are not disheartened or discouraged by reason of some failures, as all business has its drawbacks, some years good, others poor. This is so to some extent with beet culture, as eight years ago, this same pest made its appearance in Utah and reduced the tonnage of beets at least 40 per cent. The following year (seven years ago) the heaviest crop of beets was raised that it has ever been on good fortune to handle in the 15 years that we have been in business. One of the reasons for this can be accounted for, that where land under adverse conditions has raised only three or four tons per acre, it is pretty much in the same condition as though it had been summer-fallowed, and under favorable conditions the following season should respond with a very heavy crop.

A great deal of experimental work has been done in Utah this year by the government and the Agricultural college of Logan, to ascertain some simple and cheap method that the farmers could apply in case of a repetition of this trouble, and it is believed success has been reached along this line should it be necessary to apply the remedy, as we are in hopes at the close of the year 1904, that we will be able to show a very successful year for the beet growers and the sugar factories of this state. For it is conceded that the farmers of Utah, generally speaking, are among the most intelligent farmers of the United States and having the irrigation system down to a science, will secure success, unless unfavorable climatic

conditions as were experienced this year, should prevail.

RESULTS AT LEHI.
Below are some of the results obtained this year at Lehi:

Name	Acres	Tons
Morgan Woodhouse	11	138
Eli Webb	17	209
Edgar E. Kieren	9	168
Max Rothie	13	123
Elisha Peck, Jr.	10	114
Wm. Webb	12	146
Geo. Fox	14	142
Morgan Evans	14	142
A. R. Anderson	9	118
M. B. Bushman	5	77
Jacob Cox	5	75
H. Z. Harrison	8	88
A. A. Peterson	4	73

RESULTS IN GARLAND.
In Garland, the following results were obtained:
My own farm of 32.4 acres produced 1,527 tons of beets, or an average of 17.4 tons per acre. Some of this land has been raising beets for the past three seasons to this yield, from 12 to 15 tons, but one place I wish to mention here, for the benefit of others who may wish to follow this method. In the spring of 1903 I sowed oats and alfalfa seed on a tract of about eight or nine acres. This land had been raising small grain for many years and was not suitable for beet culture by reason of its being run down, but it yielded a fair crop of oats. In the summer of 1904, after the first crop of hay had been harvested, the second crop was ready to cut, I plowed the same under, plowing about seven or eight inches deep, covering a very heavy crop of green alfalfa. Later on I plowed this same land, and late in the fall or early winter (say the latter part of November) I plowed the third time. This treatment gave me over 25 tons of beets per acre this season, and this is probably the cheapest fertilizer that is known to the farmers of the United States. Others followed this same method in the Bear River valley with excellent results, some of which I will mention:
M. J. Richards, Riverside, five acres treated the same way, harvested 27 tons per acre. This same farmer had in 24 acres of beets which yielded 630 tons, 25 acres, 500 tons of beets.
J. M. Nelson, Jr., of Thatcher, 25 acres, 450 tons of beets.
Antone Christensen, Bear River City, 20 acres, 389 tons of beets.
J. K. and G. S. Hawes, 25 acres, 493 tons.
Hyrum Hall of Garland, 124 acres, 254 tons of beets.



VIEW OF BEETS UNLOADED AT THE OGDEN SUGAR FACTORY.

John A. Johnson of Thatcher, six and one-half acres, 175 tons.
I might say, that the farmers of the west side of the Bear river, under the Utah Sugar company's canals, have probably the most perfect system of irrigation and distribution of water in this state, and the land is very productive of all kinds of cereals, fruit and vegetables; in fact, I have never seen it equal from a farming standpoint in any of my travels.

EAST SIDE LANDS.

The land on the east side of the Bear river, under what is known as the Hammond canal, is also very productive, but owing to its being secondary to the west side in water rights, it is necessary, before the great success can be obtained that has been on the west side, that the farmers there construct reservoirs on a small scale, that will take care of a portion of their land during the dry months of July and August. There is ample water in Bear River valley during the months of May and June to supply an unlimited number of these reservoirs, and the

Utah Sugar company has taken up this matter and is today encouraging the farmers to go into that business. There is no reason why they should not raise from 1,500 to 2,000 acres of beets annually, as in many cases the land produced on the east side this year from 15 to 22 or 23 tons per acre.
The districts affected the past season by the insects were as follows, as near as may be ascertained:
Sevier county lost 75 per cent of its crop.
Sanpete county, 50 per cent.
Utah county, 30 per cent.
Salt Lake county, 20 per cent.
Boxelder county, 20 per cent.

The Sugar company, realizing this condition, has come to the rescue of the farmers in remitting the cost of seed and planting where the tonnage fell below a certain amount. This move cost the Sugar company about \$12,000, but it was very much appreciated by the beet growers.
All conditions would indicate a very heavy acreage for next year, and I trust that success will be the result.

WEBER CO. BEET FARMERS.

By Job Pingree, Agricultural Superintendent of the Amalgamated Sugar Company.

THE Ogden sugar factory, owned by the Amalgamated Sugar company, will close its season's run for 1905 about Christmas, nearly two weeks earlier than last year. The sugar beet crop for the Ogden sugar factory during 1905 has not been so profitable to the farmers generally as last year. The average per acre is fully one-third less. Where farmers raised 15 tons to the acre last year, on an average this year they yielded 10 tons. The extremely hot weather, shortage of water and the small beet fly have been the principal

causes in reducing the crop. The fly seemed to injure the beets most that were planted late in the spring; the early beets seem to do best. The towns of Syracuse, Hooper, Kanabville, Willis, West Weber, Warren, and Plain City, which places are supplied with water for irrigation purposes from the Weber river, suffered most for want of water. The loss this year to the crops of the farmers in Weber county alone, for want of water, would amount to many thousands of dollars, a sum that would go far towards the building of a reservoir for the storage of water. There were many farmers this year who had good crops of beets, while other crops were almost a failure. A

majority of the beet growers have learned the necessity of cultivating their land well, fertilizing and planting their beet seed early, or thinning the beets early, and of keeping the weeds cleaned out, giving the sugar beets every chance to grow and mature.
As to the future of the sugar beet industry in this section, it looks encouraging. The beet raising is perhaps the most profitable of crops for the farmers. It takes a great amount of labor to raise sugar beets, but when the farmers receive their checks from the sugar company for their products they feel well paid, and though the labor is hard, they feel ready to try again next year.

When the Ogden sugar factory was first built, in 1888, it took considerable labor and planning with the farmers from Farmington on the south to Preston on the north, to get contracts signed for 2,000 acres of sugar beets, while in 1905 the farmers residing in this same district have raised beets sufficient to supply four sugar factories, viz., the Ogden, Garland, Lewiston and Lehi factories. The farmers between Farmington and Honeyville contracted for nearly 6,000 acres of sugar beets this year, which is about six times the acreage contracted for in 1888, thus showing the eagerness with which the farmers have taken up the sugar beet raising industry in these few years. In this same section a country that has been many agriculturists who are raising vegetables, grains, fruits, tomatoes and other crops. Unfortunately this year the potato crop was almost a failure in Weber county.

The Ogden Sugar company paid this season nearly \$225,000 for sugar beets, paying a flat rate of \$4.50 per ton. The yield of beets in each case is the sum of the fixed carbon and ash present; and the fuel value of the coke is measured in terms of the fixed carbon present.

Since the commencement of sugar and cane factories, iron and steel, and other home industries, the wages of the laboring men have been greatly increased, and there is plenty of employment for those who are willing to work.

freed from sand and then analyzed with the results given below. The sample No. 5 was also freed from intermixed sand before analysis:

Percent of Moisture.

Volatiles Combustible Matter.

Fixed Carbon.

Ash.

Fuel Value.

Clawson No. 4 Cleaned..... 1.37 35.57 56.14 8.84 94.73

Clawson No. 5 Cleaned..... 7.12 44.17 41.43 6.18 85.69

COAL IN THE TETON VALLEY.

FORT many years previous to the advent of the Oregon Short Line Railroad company, the permanent coal supply for the middle interior of the west, namely, Utah, Idaho, Nevada and Montana, for domestic and railroad use was the coals deposited in eastern Utah and western Wyoming. For a long period of years all the coals used on the Central Pacific and Southern Pacific were purchased from the owners of these mines. Considerably there was an eager search made in the unproductive coal regions for a deposit that would justify the building of a railroad for its development and use.

About 1900 Kemmerer, in Wyoming, was developed, and from that source were drawn supplies for Idaho, Montana, and other sections contiguous thereto. But when in the fall of 1903 a report was current that coals had been discovered in the Teton valley, bordering on the Wyoming line and near Yellowstone park, it was looked upon with considerable doubt. As the men who made the discoveries were farmers and ranchmen, and were lacking in means to properly develop them, the skeptics were, as usual, very sure that nothing would ever come of these prospects. The contrary has now developed, however. The prospects have become profitable working properties, the deposits of coal are found to be permanent, extensive and valuable, and it only requires the advent of the railroad into that valley with ample to supply the wants of the whole northwest.

This condition was due to the efforts of Mr. A. L. McDonald, of Victor, Colorado, previously a resident of the oil districts of Ohio and Indiana, where a life experience had taught him what oil indications were, and in seeking a new home in the far west he traversed the valleys of the Tetons and there discovered such indications as in his experience justified the purchase of 800 acres of prospective oil and coal lands in the Teton basin. With limited means, but unlimited energy, he organized a company, which, under his direction, followed the strong oil indications and sank a well 575 feet deep near the Teton river. This well developed a 19

foot vein of coal, 650 feet beneath the surface, and strengthened the already discovered prospects upon the crest of the hills in the mountains of the west basin.

Unfortunately for that section and for his enterprise, Mr. McDonald was taken ill and died, and his executors allowed all of his improvements to go by default and they were sold for less than the cost of transportation. The hardy residents of the Teton basin, however, were not satisfied to let so promising a prospect go by the board. They have therefore worked with considerable energy, and with what limited means they could command, until they have developed a coal vein of superior quality, here six feet thick, and have secured title to the property. The coal from this vein finds a ready local market through team haul to St. Anthony, Bismarck, and other points. It has been taken from this claim since the last of October, and the vein is traceable for more than two miles upon the crest of the ridge, where in places it widens to 20 feet. Primitive as their appliances are, and without public roads, this coal is delivered profitably to the consumers along the Oregon Short Line.

The question is often raised as to the quality of these new discoveries. I am pleased to say that a report made by Dr. James E. Talmage, of the University of Utah, as a result of an analysis made by him in 1904. A casual examination of these coals, taken from the surface and subjected to a most conservative examination, show results that compare favorably with the coals furnished from the long-established mines in Utah and Wyoming. It only remains for the railroad company to build its line from the most feasible points into the Teton basin, to develop the mines and save the long haul from eastern points, and to secure a permanent supply for themselves and the inhabitants of the Teton basin. The Department of Geology, Salt Lake City, Utah, Jan. 2, 1904. Mr. Spencer Clawson, City: Dear Sir—The samples of coal received from yourself have been submitted to examination and analysis, according to your request, and I have to report results as follows:

RESULTS OF ANALYSIS.
The air-dried samples contain:

	Percent of Moisture.	Volatiles Combustible Matter.	Fixed Carbon.	Ash.	Fuel Value.
Teton No. 1.....	4.62	41.69	48.69	4.89	90.35
Teton No. 2.....	3.11	41.69	48.69	4.89	87.09
1. P. Co. No. 3.....	3.82	35.57	56.14	9.32	90.99
Clawson No. 4.....	0.69	38.47	52.32	4.99	84.73

ly of small pieces of coal, contained also a considerable quantity of sand mechanically mixed with the coal. Part of this sample was then practically

BEET RESULTS IN IDAHO.

By Mark Austin, Agricultural Superintendent of the Idaho Sugar Company.

THE third year's experience in beet culture in the Snake River valley for the sugar city and Idaho Falls factories has certainly been attended with great success. The crops have been excellent, in many cases being far beyond the farmers' expectations. The greater number of the growers are entirely satisfied with the results they have attained this season, and they have thoroughly demonstrated that where careful selection and preparation of the soil is made at the proper time, and the crop is properly planted and cared for, excellent results will follow.

The farmers have also discovered that fall plowing gives high results and at least 75 per cent of the land has already been plowed for next year's crop. We have also demonstrated that the use of alfalfa as a fertilizer to enrich the soils of the Snake River valley is very valuable, and experience has taught us the best method in the use of alfalfa as a fertilizer is to plow under the first growth just prior to the time of cutting, thoroughly covering it, so that it will decay during the hot weather of July and August, and then plow again in the fall, and in this way it will kill a greater part of the alfalfa and cause a great deal of it to decay and pass into the soil, thoroughly fertilizing it, which should stimulate the growth of the crop for at least two to three years; in the sub-irrigated districts of Fremont county, which are quite extensive, it will no doubt furnish food

for the plant for at least four to five years, as where water is applied on the surface it washes out the fertilizer a great deal faster than it does where the moisture comes from beneath, by reason of the water level rising and furnishing moisture to the soil and plants. While it is true that the use of the soil is lost for one year, the increased returns by the above preparation will more than pay the interest on the money invested in the land for the year in which there is no crop raised, as the western farmer is beginning to realize that he cannot take from the soil continually without returning something by way of fertilizer to stimulate it, and there is no cheaper way of doing it than using alfalfa or clover.

There is no question of the success of beet culture in southeastern Idaho from this time forward, as it has been demonstrated that it is much more profitable than any other crop that has been heretofore grown in this section of Idaho; each year the farmers growing beets for the Idaho Falls and Sugar City factories since the commencement, have practically doubled their acreage, and tonnage taking the whole section as a center in which the beets have been grown, that is, grown by the gross number of tons grown by the farmers collectively and delivered to the factories.

This speaks well for the industry, and there is no question that the growers who have grown beets for the Blackfoot factory will do equally as well the coming season as the farmers further north.

Following are some of the records made the past season by farmers in the Snake River valley:

Name.	Address.	Acreage.	Per Acre.	Tonnage.	Amount realized.
W. E. Hunter.....	Parker.	40	1615	64,600	\$2,884.75
Godfrey Klinger.....	Salem.	12	18	216	866.25
Lloyd Roberts.....	Sugar.	8	19	152	602.00
Horace E. Roberts.....	Sugar.	4%	21	472.16	
John Hicks.....	Salem.	5	18	90.29	
Jacob Johnson.....	Teton.	18	17%	1,377.64	
Jesse M. Baker.....	Teton.	45	22	4,240.44	
W. W. Walters.....	Rehburg.	5	17	288.28	
Lawrence Thomas.....	Sugar.	1	30%	1,18.00	
Morgan Smith.....	Salem.	62	16	1,072.00	
Charles Swensen.....	Rehburg.	3	29%	223.94	
Austin & Bowerman.....	Parker.	35	15	2,128.91	
Mark Austin.....	Parker.	25	21	2,562.50	
A. D. Miller.....	Parker.	62	16	1,072.00	
W. L. Flint.....	Parker.	27	16	1,321.31	
George A. Crapo.....	Parker.	20	19	1,742.47	
Walter Moore.....	Parker.	5	25%	382.21	
Reuben and Lee Austin.....	Parker.	18	16	1,443.21	
A. D. Miller, Jr.....	Parker.	18	16	1,224.14	
James A. Crapo.....	Parker.	6	21	644.49	
C. H. Carlson.....	Parker.	13	17	895.81	
S. M. Davis.....	Parker.	12	17	961.59	
John Dilling.....	Sugar.	20	16	1,443.21	
H. H. Hunter.....	Parker.	40	15%	2,772.95	
Eastern Beet and Seed Farm.....		230	18	2,772.95	
Eastern Beet and Seed Farm.....		130	19%	2,150.23	
James S. Sweeney.....	Teton.	10	33%		
Mark Austin.....		10	33%		

*Two boys, under 11 years, did the work on above. The average of the farmers' crop in the Parker district exceeded a ton over 15 tons to the acre.

Each of the samples yield a light pulverulent ash of reddish color; the color indicates the presence of iron and the possibility of a small amount of sulphur combined with the iron.

The Teton samples, No. 1 and No. 2, produce a good quality of coke from the powdered coal. 1. P. Co. No. 3 is a non-coking coal. Clawson No. 4 and sample No. 5 coke but poorly. The yield of coke in each case is the sum of the fixed carbon and ash present; and the fuel value of the coke is measured in terms of the fixed carbon present.

INTERPRETATION OF RESULTS.

All the coals herein reported may be classed in a general way as bituminous, though in physical features the Teton samples are decidedly lignitic. The samples are all practically pure coals, i. e., free from intermixed foreign matter due to original deposition; though in Teton No. 2 the high content of ash may indicate slight contamination. The intermixed sand in samples No. 4 and No. 5 was plainly marked not belonging to the coal as deposited.

In composition the coals herein rank high among the coals of this western region, and compare favorably with coals of similar class generally. They are all well adapted for fuel purposes in stoves or grates. To determine their suitability for use in metallurgical operations, analysis for sulphur and phosphorus should be made.

Among themselves the samples rank as to fuel value in the order of the content of fixed carbon and volatile combustible matter, and according to their low content of moisture and ash.

Respectfully submitted,

J. E. TALMAGE.

The extraordinary developments of eastern Idaho in the cultivation of the sugar beet, stock raising, and the great crops of grain of all kinds, indicate a growth in this section that is phenomenal, and the "Gem State" will easily hold first place in the intermountain section.

SPENCER CLAWSON.

A Curious Custom of Oxfordshire.

In some places in Oxfordshire, England, it was the right of every miller to ask the hired man for a pair of ivy to trim the house. If he turned a deaf ear to his importunities or forgot his request, he would steal a pair of his breeches and nail them to the gate in the yard or on the mill-lane. This was supposed to deter him from all privileges of the millstone.

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