ANOTHER EXPERIMENT

I took some large earthen pots and filled them with rich muck from the southern part of the state which although in apparent perfect condition having been tiled and cultivated, refused to produce any kind of a plant. The seeds germinating turned brown and died.

Four jars of this earth were selected to find out why this soil did not raise crops and in addition one jar of sand taken eight feet below the surface and one jar of coal ashes was added to this experiment. The first jar of muck was treated with ground lime stone; the second with bone dust; the third with wood ashes, the fourth with a combination of all, the sand and coal ashes were untreated. All of these jars were planted with four kernels of rye, two kernels of corn and four seeds of vetch representing the crops which will grow on acid soils or those relatively poor in lime and four seeds of clover and two beans to represent crops which require an abundance of lime.

The results were that in the jar of muck treated with lime, only the rye and a weak plant of vetch grew; in the second jar treated with bone dust a good plant of rye six feet tall with large well-filled heads. One bean made a struggle for existence and produced a few small pods. In the third jar treated with wood ashes, the rye made a fine growth as did the vetch, clover and beans, but in the fourth jar treated with wood ashes, bone dust and lime stone everything grew to perfection. The rye was over six feet tall with large heads, the vetch had large well-filled pods, the corn did all that it could to fight against its neighbors but grew four or five feet high. The beans also grew well with large well-filled pods and the pot was completely filled with a mass of roots fighting with each other for food.

If plants will not grow on acid soil simply because it is acid and lime is used only to neutralize the acid condition in the soil as many seem to think, soda might be used to neutralize the soil, but it would not make crops grow.

This muck was undoubtedly acid, but it was not the change in its acid condition, but the supplying of the necessary lime, phosphate and potash which made the plants grow.

The fifth jar filled with common Michigan sand was not expected to make a good showing against the rich soils from the southern part of the state, but to my surprise the rye in this jar was seven feet tall with immense well-filled heads, the corn and other plants with the exception of the vetch died out, but it gave me a clue to further investigation regarding the sand soils of which I will speak later.

The sixth jar was supposed to do nothing, but to my surprise these coal ashes, which, according to any of our chemists, do not contain a trace of the three plant foods, nitrogen, phosphorus and potash, produced as fine rye as either of the other soils, and when later I repeated the experiment with the coal ashes to be sure that no mistake had been made, I found that I could raise as fine potatoes and as fine tomatoes in nothing but an ash pile as I could on the best clay soils in any part of the country. If there is no plant food in the coal ashes what makes the potatoes and tomatoes grow?

Any farmer can take a glass bottle or broken window pane, hammer it up to the finest of ordinary sand, place it in a flower pot and plant in it an ordinary bean which can gather its nitrogen from the air and by supplying enough moisture and sunshine he can raise as good a crop of beans in the broken glass as on clay soils.

This homely experiment which can be repeated by any of my readers will open to them the road to investigation on their own farms and make them realize something of the wonders of the soil and the great possibilities of manufacturing human food.—Sand Farmer.

For years it has been taught that keeping stock and applying the manure to the soil would improve a farm, and I shall discuss this method in a later chapter, but I merely wish to ask the question here to impress upon your minds this fact, that one plant food cannot be substituted for another. "How can manure, which is chiefly of benefit for its nitrogen and the slight amount of humus added to the soil, add lime to soils that are deficient in lime, or how can it add phosphorus?"—Sand Farmer.

A soil may contain nine of the plant foods and yet be deficient in the tenth which may be nitrogen. I have known of oats being seeded on land which was deficient in nitrogen. They grew only about a foot high, but produced a tremendous yield of grain because the soil was rich in the other nine plant foods, but nitrogen, which produces the leaf and stalk, being lacking, the usual length of stalk could not grow.—Sand Farmer.

If there are ten plant foods which enter into the growth of a plant, is it folly to add more nitrogen to stimulate a leaf growth on any crop when the one lacking element is one of the other nine. In other words, nitrogen can never take the place of lime, lime can never take the place of potash, potash can never take the place of phosphorus or carbon. Each of these plant foods has its own individual function to perform and no substitute of one plant food can ever make up for the lacking element.—Sand Farmer.

People who run around looking for sympathy don't get a great deal of it.

AUDITORS' REPORTS

Auditor Crandall's Report for Year of 1913.

FINANCIAL STATEMENT OF MALHEUR COUNTY, ON JAN. 1, 1913, AS SHOWN BY THE BOOK OF COUNTY CLERK.

RESOURCES

Cash in hand Treasurer General Fund		$ 18,967.22	
Cash in hands, Officers, General Fund		13,432.91	
Cash in Various Funds applicable to General Fund:			
Migratory Stock Fund	$ 517.80		
Contingent Fund	37.84		
State Tax Fund	4,814.03	5,369.67	
Amount due from State for one half Scalp bounty		1,415.50	
Uncollected Taxes $50,401.16, Estimated		6,000.00	
LIABILITIES			
Unredeemed General Fund Warrants			86,782.53
Interest due Estimated			3,000.00
Excess Liabilities over Resources		44,597.23	
		$ 89,782.53	$ 89,782.53

Report of Auditors October 1, 1914, to Dec. 31, 1915.

CERTIFICATE

WE HEREBY CERTIFY; That we have examined the books, records and vouchers of the Sheriff, Clerk, Treasurer and Assessor of Malheur County, Oregon, covering all transactions from October 1st, 1914, to December 31st, 1915, inclusive, and that the statements filed herewith are true exhibits as shown by said books, records and vouchers.

ROLAND G. MILES,
C. H. WHITNEY,
Certified Public Accountants.

Vale, Oregon, April 1st, 1916.

CLERK'S OFFICE

Financial Statement of Malheur County as of December 31, 1915.

ACTIVE LIABILITIES

Bonds outstanding	$ 30,000.00
Gen. Fund Warrants outstanding	41,813.48
Est. Int. on Warrants	1,746.00
Accrued Int. on Bonds	750.00

ACTIVE RESOURCES

Cash in Gen. Fund		$ 28,975.56
Cash in Road Fund		3,048.24
Cash in Per. Rd. Fund		2,098.35
Estimated County equity in Delinquent Taxes		15,642.00
County Fair Fund		39.10
Scalp Bounty due from State		1,068.50
Gen. Fund in hand of County officers, unapportioned		2,298.00
NET LIABILITIES		21,039.73
	$ 74,309.48	$ 74,309.48

NOTE: Bonds outstanding are not technically Active Liabilities, as they run for a period of years and the County should create a sinking fund to retire them when due. If the bonds were taken from the above mentioned Liabilities the County would show Active Resources amounting to $8,960.27.

CLERK'S OFFICE

Receipts and Disbursements from October 1, 1914, to December 31, 1915, Inc.

RECEIPTS

Recording and filing Fees	$ 7,999.14	
Errors in Footings, Etc.	1.00	

DISBURSEMENTS

Treasurer's Receipt No. 203		$ 418.67
" " " 213		497.85
" " " 224		615.42
" " " 230		645.91
" " " 238		374.15
" " " 244		623.55
" " " 250		555.90
" " " 257		574.70
" " " 264		516.60
" " " 269		444.45
" " " 272		469.25
" " " 278		485.90
" " " 280		510.95
" " " 286		557.55
" " " 292		708.29
In hands of Clerk as shown below		1.00
	$ 8,000.14	$ 8,000.14

Marriage License Swisher to Driscoll	$3.00	
Probate Court Case No. 187 As is $5.00 Should be $7.50	2.50	
Probate Court Case No. 190 As is $10.00 Should be $7.50		$2.50
Probate Court Case No. 207 As is $7.50 Should be $5.00		2.50
Error footing Vol. 4 page 246 of Reception record	.50	
Error footing Vol. 4 page 250 of Reception Record	1.00	
Error footing Vol. 5 page 21 of Reception Record		1.00
To balance		1.00
	$7.00	$7.00

CLERK'S OFFICE

Balance Statement as of December 31, 1915.

	DEBIT	CREDIT
J. R. Weaver, Treasurer	$ 52,358.38	
Ben J. Brown, Sheriff	96,098.47	
Uncollected taxes		$ 96,098.47
City of Vale		158.60
City of Ontario		820.22
City of Nyssa		234.96
City of Jordan Valley		11.50
Estates of Deceased persons		630.80
County Fair Fund		39.10
County Fund		28,975.56
General Road Fund		3,048.24
Indemnity Fund		140.15
Payette Ore. Slope Irri. Dist.		4,468.63
Dead Ox Flat		444.00
Owyhee Irrigation Dist.		154.77
Permanent Good Roads Fund		2,098.35
Road District No. 1		1,333.47
" " " 2		103.44
" " " 3		137.36
" " " 4		188.92
" " " 5		728.16
" " " 6		133.16
" " " 7		209.67
" " " 8		249.25
" " " 9		361.94
" " " 10		235.20
" " " 11	18.99	
" " " 12	955.85	
" " " 13		65.42
" " " 14		465.50
" " " 15	490.92	
" " " 16		126.98
" " " 17		82.97
" " " 18		116.78
" " " 19		236.12
" " " 20		541.07
" " " 21		7.41
School Fund		4,350.93
State Fund	2,015.58	
School District No. 1		302.65
" " " 2		33.05
" " " 3		277.13
" " " 4		74.56
" " " 5		8.60
" " " 6		168.33
" " " 8		985.03
" " " 10		80.94
" " " 11		24.63
" " " 12		12.65
" " " 13		5.39
" " " 14		69.18
" " " 15		211.23
" " " 18		20.79
" " " 23		62.12
" " " 24		78.52
" " " 26		372.58
" " " 27		23.97
" " " 28		2.15
" " " 29		205.69
" " " 30		68.75
" " " 31		75.57
" " " 32		14.46
" " " 33		9.73
" " " 34		8.34
" " " 36		5.51
" " " 38		58.03
" " " 39		11.84
" " " 40		31.40
" " " 41		4.23
" " " 42		7.16
" " " 43		42.85
" " " 45		18.17
" " " 46		76.75
" " " 47		135.51
" " " 48		5.17
" " " 49		22.55
" " " 51		388.55
" " " 52		5.52
" " " 53		65.23
" " " 54		365.80
" " " 56		2.50
" " " 57		122.09
" " " 58		53.07
" " " 59		17.29
" " " 60		38.97
" " " 61		33.85
" " " 62		1.12
" " " 63		15.82
" " " 64		20.99
" " " 65		27.10
" " " 66		1.50
" " " 68		8.90
" " " 69		13.71
" " " 70		25.05
" " " 71		5.05
" " " 72		5.16
" " " 50		1.73
" " " 67		6.88
General Fund Warrants		41,813.48
" " " 1908	49.45	
" " " 1909	18.90	
" " " 1910	65.40	
" " " 1911	200.35	
" " " 1912	198.15	
" " " 1913	77.96	
" " " 1914	505.43	
" " " 1915	40,697.84	
	$193,751.69	$193,751.69

CLERK'S OFFICE

Balance Statement of Warrant Account, December 31, 1915.

General Fund Warrants		$ 41,813.48
" " " 1908	49.45	
" " " 1909	18.90	
" " " 1910	65.40	
" " " 1911	200.35	
" " " 1912	198.15	
" " " 1913	77.96	
" " " 1914	505.43	
" " " 1915	40,697.84	
	$ 41,813.48	$ 41,813.48

COMPARATIVE STATEMENT

Made as of December 31, 1915.
Showing General Expense for the Years 1913, 1914 and 1915,
Paid by Warrants.

	1913	1914	1915	Total
County Court	$ 3,215.20	$ 4,371.62	$ 4,828.76	$ 12,415.58
Circuit Court	8,549.45	8,905.39	6,630.98	24,085.82
Justice Court	595.10	1,029.52	1,193.93	2,818.55
Sheriff's Office	8,119.62	8,572.61	8,776.38	25,468.61
Clerk's Office	5,632.90	5,670.57	5,943.56	17,247.03
Treasurer's Office	1,131.36	3,286.01	2,611.63	7,029.00
Coroner's Office	415.95	285.80	75.06	776.81
School Supt's Office	1,605.89	2,803.39	1,826.78	6,236.06
Stock Inspector	504.54	962.06	337.07	1,803.67
Assessor's Office	6,777.87	6,904.55	7,363.45	21,045.87
Current Expense	3,398.65	2,251.90	5,429.53	11,080.08
Court House	2,232.64	2,994.55	1,952.22	7,179.41
Jail Expense	1,410.84	1,820.24	2,207.66	5,438.74
Appropriations	1,500.00	1,475.00	4,276.67	7,251.67
Care of Poor	9,121.09	7,477.74	8,365.57	24,964.40
Care of Insane	296.55	92.00	158.46	547.01
Sealer of Wts. and Meas.		327.32	112.70	440.02
Election Expense	2,759.79	6,213.48	31.40	9,004.67
Scalp Bounty	7,862.50	4,852.50	15,373.00	28,088.00
Roads			1,658.66	1,658.66
Fruit Inspector	632.27	1,050.60	857.00	2,539.87
County Physician	300.00	300.00	339.50	939.50
Water Master	2,426.20	1,849.10	1,806.87	6,082.17
Assmt. and Coll. of Taxes	972.04	743.74	1,137.95	2,853.73
Widows Pensions	861.50	1,875.00	2,047.50	4,784.00
Tax Rebate	485.79	739.80	382.31	1,607.90
Truant Officer			33.05	33.05
Vet. Surgeon			215.00	215.00
	$ 70,807.74	$ 76,854.49	$ 85,972.65	$233,634.88

COMPARATIVE STATEMENT

Made as of December 31, 1915.
Showing Road Expense for the Years 1913, 1914 and 1915,
Paid by Warrants.

	1913	1914	1915	Total
General Road Fund	$ 5,771.19	$ 19,939.39	$ 19,226.13	$ 44,936.71
Road District No. 1	6,716.00	4,011.84	2,625.35	13,353.19
" " " 2	3,311.15	2,012.78	1,997.19	7,321.12
" " " 3	1,990.97	3,070.22	2,499.56	7,560.75
" " " 4	1,234.27	909.77	493.60	2,637.64
" " " 5	772.48	772.41	181.01	1,675.90
" " " 6	671.61	736.28	843.35	2,251.24
" " " 7	1,412.26	841.23	933.54	2,587.03
" " " 8	67.65	1,445.50		1,513.15
" " " 9	1,290.50	1,048.15	357.50	2,696.15
" " " 10	1,432.82	1,187.84	519.60	3,140.26
" " " 11	612.43	507.94	1,451.24	2,571.61
" " " 12	629.45	948.84	628.44	2,206.73
" " " 13	1,126.84	1,063.54	893.31	3,083.69
" " " 14	2,173.14	1,518.91	2,058.95	5,751.00
" " " 15	1,110.00	429.50	743.17	2,282.67
" " " 16		516.32	375.35	891.67
" " " 17		982.98	379.15	1,362.13
" " " 18		459.97	699.30	1,159.27
" " " 19		228.75	259.42	488.17
" " " 20		1,252.00	814.06	2,064.06
" " " 21			372.50	372.50
Permanent			24,830.20	24,830.20
	$ 30,322.76	$ 43,834.16	$ 63,181.92	$137,338.84

RECEIPTS AND DISBURSEMENTS

Of General Road Fund Account.
From October 1st, 1914, to December 31, 1915, Inclusive.

RECEIPTS

1914		
Oct. 1, Balance on hand	$ 6,552.74	
Oct. 31, R. D. Fund Taxes	236.97	
Nov. 30, " " "	219.98	
Dec. 31, " " "	67.87	
1915		
Jan. 31, " " "	1,204.11	
Feb. 28, " " "	139.07	
Mch. 31, " " "	11,261.13	
May 31, " " "	1,410.01	
June 30, " " "	8.72	
July 31, " " "	1,456.53	
Aug. 31, " " "	393.83	
Sept. 30, " " "	4,804.42	
Oct. 31, " " "	1,204.14	
Nov. 30, " " "	467.64	
Dec. 31, " " "	729.31	

DISBURSEMENTS

1914		
Oct. 31 Warrants paid		$ 750.44
Nov. 30 " "		1,916.61
Dec. 31 " "		2,670.57
1915		
Jan. 31 " "		2,044.00
Feb. 28 " "		738.39
Mch. 31 " "		2,249.92
Apr. 30 " "		391.39
June 30 " "		12,004.30
July 12 " "		150.50
Aug. 31 " "		269.33
Sept. 30 " "		1,635.07
Oct. 31 " "		619.06
Nov. 30 " "		999.05
Dec. 31 " "		669.60
Dec. 31 Balance in Road Fund		3,048.24
	$ 30,156.47	$ 30,156.47

STATEMENT

Showing Receipts and Disbursements of Road Districts
From October 1, 1914, to December 31, 1915, Inclusive.

	Receipts	Disburse.
1914		
Oct. 1, Balance on hand	$ 6,993.46	
1915		
Dec. 31, Road District No. 1	3,887.12	4,682.51
" " " " 2	2,177.86	2,391.26
" " " " 3	2,163.77	3,725.00
" " " " 4	667.98	515.10
" " " " 5	848.52	294.36
" " " " 6	884.28	1,150.30
" " " " 7	1,129.59	936.49
" " " " 8	966.08	1,445.50
" " " " 9	944.82	540.50
" " " " 10	1,158.89	587.52
" " " " 11	914.20	1,451.24
" " " " 12	309.47	1,152.53
" " " " 13	1,251.87	1,287.83
" " " " 14	2,169.67	2,290.49
" " " " 15	441.02	1,111.67
" " " " 16	499.04	502.60
" " " " 17	1,270.37	929.99
" " " " 18	711.83	882.85
" " " " 19	343.74	488.17
" " " " 20	1,488.29	906.31
" " " " 21	379.91	372.50
Balance to credit of Districts		3,957.06
	$ 31,601.78	$ 31,601.78

STATEMENT

Showing Receipts and Disbursements of Permanent Good Roads Fund
As of December 31, 1915.

RECEIPTS

1915		
March 29. Sale of Bonds	$ 30,000.00	
" " Premium on same	719.25	

DISBURSEMENTS

1915		
May 10 Trans. to Gen. Fund		$ 1,790.70
July 12 Exp. on roads		426.00
Sept. 23 Exp. on Roads & Bridges	12,175.00	
Oct. 19 Exp on Roads & Bridges	12,225.00	
Nov. 30 Trans. to Gen. Road		1,204.14
" " " R. D. No. 6		60.00
" " " R. D. No. 13		345.14
" " " R. D. No. 17		200.13
" " " R. D. No. 21		190.59
" " Exp. on Roads		4.20
Dec. 31, Balance in Fund		2,098.35
	$ 30,719.25	$ 30,719.25

STATEMENT

Showing Condition of Scalp Bounty Account as of December 31, 1915.

DEBITS

1914		
Oct. 1, Balance as per Audit	$ 593.25	
To one half of amount paid by County for year 1915 $15,373.00, one half of same being	7,686.50	

CREDITS

1915		
Mch. 30, Received from State		$ 895.75
May 12, Received from State		2,226.00
June 12, Received from State		1,180.50
Sept. 1, Received from State		826.00
Dec. 20, Received from State		1,179.00
Dec. 31, Received from State		904.00
Dec. 31, Due from State		1,068.50
	$ 8,279.75	$ 8,279.75

STATEMENT SHOWNG RECEIPTS AND DISBURSEMENTS OF CITY OF VALE AND SCHOOL DISTRICT No. 15

From October 1, 1914, to December 31, 1915, Inclusive.

RECEIPTS

1914		
Oct. 1 Balance on hand	$ 1,673.66	
1915		
Oct. Special city Taxes	88.63	
Nov. " " "	79.28	
Jan. " " "	165.54	
Feb. " " "	34.80	
Mar. " " "	3,591.76	
May " " "	201.40	
July " " "	28.76	
Aug. " " "	84.79	
Sep. " " "	233.46	
Oct. " " "	2,392.48	
Dec. " " "	161.19	

DISBURSEMENTS

1914		
Oct. Paid City Treasurer		$ 1,673.66
Dec. " " "		167.91
1915		
Jan. " " "		3.58
Feb. " " "		161.96
Apr. " " "		3,626.56
June " " "		124.53
July " " "		74.92
Nov. " " "		2,741.62
Dec. " " "		2.41
Dec. 31 Balance in Fund		158.60
	$ 8,735.75	$ 8,735.75

SCHOOL DISTRICT No. 15

RECEIPTS

1914		
Oct. Special school Taxes	$ 45.18	
Nov. " " "	54.85	
1915		
Jan. " " "	244.13	
Feb. " " "	26.68	
Mar. " " "	5,562.73	
May " " "	207.80	
July " " "	146.37	
Aug. " " "	46.85	
Sep. " " "	324.67	
Oct. " " "	4,029.43	
Dec. " " "	211.23	

DISBURSEMENTS

1914		
Paid School Clerk		$ 100.03
1915		
Paid School Clerk		10,588.66
Dec. 31 Balance in Fund		211.23
	$ 10,899.92	$ 10,899.92

NOTE. In addition to above amount $3,753.25 State and County school fund was expended.

STATEMENT SHOWING RECEIPTS AND DISBURSEMENTS OF THE CITY OF ONTARIO, ORE.

From October 1, 1914, to December 31, 1915, Inclusive.

RECEIPTS

1914		
Oct. Taxes Recd	$ 19.82	
Nov. " "	364.02	
1915		
Jan. " "	459.85	
Feb. " "	57.09	
Mar. " "	7,425.29	
May " "	478.06	
July " "	130.68	
Aug. " "	101.00	
Sep. " "	3,567.41	
Dec. " "	820.22	

DISBURSEMENTS

1914		
Dec. Paid City Treasurer		$ 383.84
1915		
Jan. " " "		459.85
Apr. " " "		7,482.38
June " " "		478.06
Nov. " " "		3,799.09
Dec. 31 Balance in Fund		820.22
	$ 13,423.44	$ 13,423.44

STATEMENT SHOWING RECEIPTS AND DISBURSEMENTS OF SCHOOL DISTRICT No. 8, ONTARIO.

RECEIPTS

1914		
Oct. Special School Taxes	$ 10.48	
Nov. " " "	364.05	
1915		
Jan. " " "	767.05	
Feb. " " "	79.60	
Mar. " " "	11,465.49	
May " " "	742.11	
July " " "	317.14	
Aug. " " "	210.33	
Sept. " " "	1,395.13	
Oct. " " "	3,290.95	
Dec. " " "	985.03	