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Agricultural College Bulletin  
35<sup>th</sup> and 36<sup>th</sup> Reports

State Agricultural College  
Fort Collins, Colorado.

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# Agricultural College Bulletin

*Thirty-Fifth and Thirty-Sixth  
Annual Reports*

OF

THE STATE BOARD OF AGRICULTURE  
OF COLORADO

FOR THE

*Fiscal Years Ending November 30, 1913  
and November 30, 1914*



THE STATE AGRICULTURAL COLLEGE  
FORT COLLINS, COLORADO

SERIES NO. XIV

NO. 6

*Issued January, March, May, July, September, November. Entered as  
Second-Class Matter at the Post Office at Fort Collins, Colorado.*

THE STATE BOARD OF AGRICULTURE

HON. F. E. BROOKS.....Colorado Springs, 1915  
HON. WILLIAM HARRISON .....Clifton, 1915  
HON. J. C. BELL.....Montrose, 1917  
HON. J. S. CALKINS.....Westminster, 1917  
HON. CHAS. A. PEARSON.....Durango, 1919  
HON. R. W. CORWIN.....Pueblo, 1919  
MRS. J. B. BELFORD.....Denver, 1921  
HON. A. A. EDWARDS.....Fort Collins, 1921  
PRESIDENT CHAS. A. LORY  
GOVERNOR ELIAS M. AMMONS } *Ex-Officio.*

OFFICERS.

HON. A. A. EDWARDS.....*President*  
HON. J. C. BELL.....*Vice-President*  
L. M. TAYLOR.....*Secretary and Purchasing Agent*  
M. G. NELSON.....*Treasurer*

EXECUTIVE COMMITTEE

A. A. EDWARDS      J. S. CALKINS      E. M. AMMONS

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LETTER OF TRANSMITTAL.

I have the honor herewith to submit the Thirty-fifth and the Thirty-sixth Annual Reports of the State Board of Agriculture, containing detailed statements of the receipts and disbursements on account of the various funds under the control of the Board, as shown by the records of the Secretary's office, and as required by law, together with the reports of the executive officers of the Colorado Agricultural College, the Colorado Experiment Station, the Fort Lewis School of Agriculture, and the Teller School of Agriculture.

The reports of the special state service, under the direction of the State Board of Agriculture, carried on by employes of the Board, under the provisions of the various acts of the General Assembly, investing the State Board of Agriculture with the powers of a State Pest Commission, a State Dairy Commission, a State Board of Forestry, and a State Board of Horticulture, have been made to you direct by Prof. C. P. Gillette, as State Entomologist; Prof. G. E. Morton, as State Dairy Commissioner; Prof. B. O. Longyear, as State Forester; and Dr. E. P. Sandsten, as State Horticulturist.

Respectfully,

A. A. EDWARDS, *President.*

To His Excellency,

HON. ELIAS M. AMMONS, *Governor.*

## Financial Statement

1913

THE RECEIPTS AND DISBURSEMENTS FOR THE YEAR.

The use that may be made of the Morrill fund and of the Land Grant fund (Land Income), is prescribed by Act of Congress of July 2, 1862, and its amendments.

The classification used for the Experiment Station funds (Hatch and Adams) received from the Government is prescribed by the Department of Agriculture.

The budget classification, for instruction and administration, is our own.

The tables are arranged so as to show, clearly, the receipts and the disbursements for each line of work under the control of the State Board of Agriculture.

## SECRETARY'S CASH.

For the Year Ending November 30, 1913.

## RECEIPTS:

*College—*

Animal Husbandry .....	\$ 4,339.26	
Farm Department .....	9,669.27	
Veterinary Science .....	422.00	
Physics and Electrical Engineering.....	9.24	
Rents and Lights.....	305.20	
Horticultural Department .....	630.90	
Civil and Irrigation Engineering.....	18.35	
Hydraulic Laboratory .....	320.33	
Chemical Department .....	403.50	
Mechanical Engineering .....	212.05	
Building Superintendent .....	398.33	
Electrical Supplies .....	267.33	
Farmers' Institutes .....	272.30	
Miscellaneous (Refunds) .....	16.15	
Rural Education .....	1,174.78	
School of Agriculture.....	33.35	
Home Economics .....	56.27	
Secretary's Office .....	3.00	
President's Office .....	12.85	
Entrance and Laboratory Fees, etc.....	7,035.84	\$25,600.30

*Experiment Station:*

Horticulture Section .....	\$ 5.25	
Horse Investigation .....	2,972.80	
Plant Industry .....	115.00	
Poultry Investigation .....	63.28	
Irrigation Investigation .....	863.16	
Director's Office .....	107.00	
Flax Culture .....	250.00	
Brisket Disease .....	200.00	4,576.49

## DISBURSEMENTS:

College Treasurer Cr. to College Cash Fund....	\$22,457.30
College Treasurer Cr. to Exp. Sta. Cash Fund..	4,317.89
College Treasurer Cr. to Exp. Sta. Sales Fund..	258.60
State Treasurer Cr. to College Cash Fund....	3,143.00

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 \$30,176.79    \$30,176.79

No tuition is charged. Laboratory fees are charged as part payment for material used. By unanimous request the Board, through the Registrar, collects the subscription to the student paper, "The Rocky Mountain Collegian," and the athletic fees and cost of the season athletic ticket, for the Associated Students.

## REGISTRAR'S CASH.

December 1, 1912—November 30, 1913.

## RECEIPTS:

Entrance fees .....	\$ 2,322.00
Athletic Association (from students) .....	8,270.10
Library fees .....	3,311.00
Collegian .....	877.50
Music (tuition) .....	3,461.35
Veterinary Laboratory fees .....	641.00
Chemical Laboratory fees .....	1,699.50
Botany and Forestry Laboratory fees .....	310.00
Physical Laboratory fees .....	822.00
Electrical Laboratory fees .....	48.00
Mechanical (Shop) fees .....	1,721.00
Agronomy fees .....	271.00
Bacteriological Laboratory fees .....	30.00
Home Economics fees .....	1,155.25
Civil and Irrigation Engineering fees .....	236.00
Horticulture fees .....	8.00
Zoology Laboratory fees .....	145.00
Fines .....	139.00
Animal Husbandry fees .....	88.00
Graduation fees .....	255.00
Uniform Deposit .....	6,670.50

## DISBURSEMENTS:

Athletic Association .....	\$ 6,465.10
Rocky Mountain Collegian .....	819.50
Music fees, C. A. C. Conservatory .....	3,424.85
Uniform Deposits .....	2,559.00
Local Treasurer .....	6,771.84
Students' Refunds, Scholarships, etc. ....	1,446.41
Balance .....	10,994.50
	<hr/>
	\$32,481.20    \$32,481.20

DISBURSEMENTS FROM COLLEGE FUNDS.  
December 1, 1912—November 30, 1913.

	Tax Fund	Land Income Fund	U. S. Morrill Fund	Special Cash Fund	State Appropri'n Fund	Total
*Advertising .....	\$ 2,759.42					\$ 2,759.42
Agronomy .....	1,454.98	710.83	4,295.76	150.03		6,611.60
Animal Husbandry .....	8,966.33	753.31	3,657.93	2,662.40		16,039.97
Building Supt. ....	9,713.21					9,713.21
Botany and Forestry .....	472.34	12.50	2,311.15			2,795.99
Campus .....	2,297.74	224.99				2,522.73
Chemical .....	1,471.55	150.00	2,872.30			4,493.85
Civil and Irr. Eng. ....	1,129.31	42.50	3,724.95			4,896.76
English and History .....	1,392.36	854.16	4,797.98			7,044.50
Current Expense. ....	9,274.23					9,274.23
Electrical Supplies. ....	761.37			100.00		861.37
Farm .....	4,153.64	148.32		10,386.83		14,688.79
Farm Management. ....	1,101.97	141.65				1,243.62
Farmers' Institutes. ....	2.40			380.51	3,605.04	3,987.95
Firemen and Jan'rs .....	248.19			6,269.95		6,518.14
Hydraulic Laboratory .....	463.90					463.90
Home Economics. ....	1,323.41	130.53	5,699.76			7,153.70
Horticulture .....	1,097.76	370.83	1,714.76			3,183.35
Land and Water. ....					3,654.90	3,654.90
Library .....	3,801.76	897.86				4,699.62
Mathematics .....	65.37	158.33	3,376.61	63.34		3,663.65
Mechanical Eng. ....	3,989.02	624.99	5,261.01			9,875.02
Military .....	687.31	120.00				807.31
Modern Languages. ....	1,032.22	524.96				1,557.18
Music .....	863.52	300.00				1,163.52
Museum .....	543.36	204.16				747.52
Physical Training. ....	1,811.20	712.49				2,523.69
Physics and El. Eng. ....	676.58	416.66	2,963.26	60.00		4,116.50
Athletic Field .....	2,376.79			226.00		2,602.79
President's Office. ....	6,379.21	2,436.62				8,815.83
Rural Education. ....	162.61	10.00				1,914.84
Registrar's Office. ....	1,344.87	428.33		1,742.23		1,773.20
Student Life—Girls .....	779.82	225.00				1,004.82
Student Life—Boys. ....	343.28	166.64				509.92
School of Agricul'tre .....	2,285.77	791.64				3,077.41
Secretary's Office. ....	2,867.23	704.15				3,571.38
State Board of Ag. ....	1,013.00					1,013.00
Veterinary .....	2,048.92	543.86	7,346.79	135.00		10,074.57
Zoology and Entom. ....	280.70	330.01	1,947.00			2,557.71
Telephone Exchange .....	498.96	93.75				592.71
Summer School ....	56.05			601.57		657.62
Commencement Exp. ....				273.30		273.30

\$81,991.66 \$13,229.07 \$49,969.26 \$23,051.16 \$ 7,259.94 \$175,501.09

See summary on page 11 for statement of receipts, disbursements and balances.

\* Postage, publication of catalogues and descriptive literature.



INSERT NO. 1.

BUDGET CLASSIFICATION FOR ADMINISTRATION, INSTRUCTION AND MAINTENANCE FOR THE YEAR ENDING NOVEMBER 30, 1913.

	Apparatus	Feeding and Stuffs	Freight and Express	Furniture and Fixtures	Labor	Gen'l and Laboratory Supplies	Laundry	Live Stock	Permanent Improve- ments	Postage and Stationery	Publi- cations	Repairs	Salaries	Seeds and Plants	Telephone and Telegraph	Tools, Im- plements and Mchy.	Traveling Expense	Fuel	Light and Power	Interest and Insurance	Water Assessm't	Rents, Fees, Re- bates, etc.	Total	
Catalogues and Publications.....	\$ 14.83		\$ 48.15		\$ 71.85	\$ 161.39				\$ 778.00	\$ 1 604.95				\$ 4.60		\$ 75.65							\$ 2,759.42
Agronomy .....	60.00		58.49	260.65	263.64	31.91			57.20	79.70	1.00		5,661.60		22.51	20.00	94.90							6,611.60
Animal Husbandry .....	103.85	2,298.92	683.78	25.00	3,340.95	154.05	37.95	2,859.65	141.05	122.97	54.90	60.66	5,541.26	86.95	25.19	258.30	244.54							16,039.97
Botany and Forestry.....	226.51		28.36	19.05	116.40	23.65				24.57	6.10	1.20	2,348.65		1.50									2,795.99
Building Superintendent .....	365.15	.75	10.69	47.10	2,829.60	219.38			4,782.03	4.00	3.83	1,447.98			2.70									9,713.21
Campus .....			77.53		977.02	41.47			172.40			3.00	758.31	395.15	2.80	7.15	87.90							2,522.73
Chemical .....	245.88		152.94	8.10	44.30	728.11			183.52	30.94		21.23	3,061.08		16.50	1.25	21.23							4,493.85
Civil and Irrigation Engineering.....	245.20		17.96	7.50	258.25	59.92	1.00			51.84		180.89	3,926.70		2.25	100.10	45.15							4,896.76
Commencement Expense .....			.75		2.50	7.15				70.85			153.50		4.90		33.65							273.30
Current Expense .....	2.00		1,534.04	148.70	350.89	215.01	.60		6.25	186.60		3.25			.65	32.84	153.32	2,969.52	2,004.64	316.35	1,199.59	149.98		9,274.23
Electrical Supplies .....			55.94		163.25	494.80			39.78	4.40			100.00		1.05	2.15								861.37
English and History.....				7.70	60.46	1.85				50.42			6,861.72		2.30		60.05							7,044.50
Farm .....			9.65	38.01	10,915.04	276.32		204.10	2,016.70	63.56		146.70	444.96	91.00	1.95	480.80								14,688.79
Farm Management .....			3.32	55.00	1.25	35.60				11.95			441.63		27.24		667.63							1,243.62
Farmers' Institute .....	32.00		8.85	4.80	549.31	342.15	2.58		15.20	155.96	558.68	3.95	1,073.30		32.41		1,203.76					5.00		3,987.95
Firemen and Janitors.....					6,518.14																			6,518.14
Hydraulic Laboratory .....	41.00		18.23		404.67																			468.90
Home Economics .....			30.62	37.15	155.13	609.55	78.42		71.30	63.86	3.50	112.12	5 966.92		14.98	7.40	2.75							7,153.70
Horticulture .....	143.64		28.04	52.65	160.95	41.78				71.92		94.00	2,390.82	136.34	5.79	21.42	45.00							3,183.35
Land and Water.....																								3,654.90
Library .....			52.52	59.54	97.30	16.37				73.89	1,699.74	6.68	2,693.58											4,699.62
Mathematics .....				5.00	5.85					13.52			3,639.28											3,663.65
Mechanical Engineering .....	10.17		21.97	65.00	532.71	1,432.60			14.75	41.45		36.05	7,323.83		.90	266.59	129.00							9,875.02
Military .....	213.52		103.86	4.65	117.55	42.98				4.00	20.00		300.00		.75									807.31
Modern Languages .....				5.00						10.62			1,541.56											1,557.18
Music .....				200.00	2.05		3.40			20.57	37.50		900.00											1,163.52
Museum .....	72.80		3.20	36.55		9.84	1.10					1.00	612.48		.65	3.55	6.35							747.52
New Athletic Field.....			1.04		1,750.61				625.14													226.00		2,602.79
Physical Training .....			.50	35.64	266.50	.30							2,205.80		1.75		13.20							2,523.69
Physics and Electrical Engineering.....	73.91		2.00	61.01	8.05	111.28	.70		34.60	19.66	8.92	20.90	3,749.92			9.55	16.00							4,116.50
President's Office .....			24.00	90.44	37.60	25.18	.25			439.93	76.75	2.76	7,348.19		151.23	1.75	617.75							8,815.83
Registrar's Office .....			6.95	2.50	51.67	60.00				203.72	1.75		1,418.33		7.58		20.70							1,773.20
Rural Education .....	73.79		11.55	5.00	39.55	28.80				164.45	176.55		1,020.00		8.70		386.45							1,914.84
School of Agriculture.....			13.99	94.95	12.85	4.36				330.97	232.72		2,349.92		3.10		34.55							3,077.41
Secretary's Office .....			7.63	52.60	110.65	16.90	.10			589.96	428.73		2,670.77		60.32		62.45							3,571.38
State Board of Agriculture.....					7.50					16.40			36.00		19.30		505.07							1,013.00
Student Life—Boys .....													509.92											509.92
Student Life—Girls .....					2.15	7.50				22.12			900.00				73.05							1,004.82
Summer School .....			1.85		16.50	21.59				100.00	57.00		453.73		1.80									657.62
Veterinary Science .....	357.19	124.68	13.20	20.35	63.17	597.26	26.00	8.00		60.75	44.96	12.45	8,661.90		69.16	15.50								10,074.57
Zoology and Entomology.....	58.39		10.88	7.00		14.35	.60			32.55		45.25	2,388.69											2,557.71
Telephone Exchange .....				4.21									302.50		286.00									592.71
Revolving Fund (Reserve).....																						1,000.00		1,000.00
	\$ 2,330.83	\$ 2,424.35	\$ 3,042.48	\$ 1 463.35	\$ 30,296.01	\$ 5,840.90	\$ 152.70	\$ 3,071.75	\$ 8,159.92	\$ 3,916.10	\$ 5,017.58	\$ 2,200.07	\$ 89,761.85	\$ 709.44	\$ 780.56	\$ 1,228.35	\$ 4,578.87	\$ 2,969.52	\$ 2,004.64	\$ 3,971.25	\$ 1,199.59	\$ 1,380.98	\$ 176,501.09	

## DISBURSEMENTS FROM EXPERIMENT STATION FUNDS.

December 1, 1912—November 30, 1913.

	U. S. Hatch Fund	U. S. Adams Fund	Cash Fund	State Appropriation Fund	U. S. Sales Fund	Total
Animal Investigation	\$ 409.79	\$ . . . . .	\$ 40.37	\$ . . . . .	\$ . . . . .	\$ 450.16
Chemical Section..	248.89	7,111.15	.25	. . . . .	10.60	7,370.89
Director and Gen'l.	4,301.49	. . . . .	52.03	. . . . .	3.50	4,357.02
Entomological Sect.	977.49	1,719.06	. . . . .	. . . . .	3.90	2,700.45
Horticultural Sect..	212.97	. . . . .	134.13	. . . . .	. . . . .	347.10
Irrigation Section..	1,573.12	1,947.80	561.98	. . . . .	. . . . .	4,082.90
Veterinary Section..	154.00	. . . . .	5.15	. . . . .	. . . . .	159.15
Bacteriological Inv..	101.76	2,936.30	2.70	. . . . .	2.85	3,043.61
Plant Industry . . .	5,222.30	. . . . .	6.75	. . . . .	3.78	5,232.83
Secretary's Office...	1,064.48	. . . . .	73.86	. . . . .	. . . . .	1,138.34
Horse Investigation	. . . . .	. . . . .	850.96	3,134.53	. . . . .	3,985.54
Poultry Investigat'n	. . . . .	. . . . .	102.94	784.07	. . . . .	887.01
Flax Culture . . . . .	. . . . .	. . . . .	244.45	. . . . .	. . . . .	244.45
Brisket Disease....	. . . . .	. . . . .	50.35	. . . . .	. . . . .	50.35
Botany and Forestry	52.10	. . . . .	. . . . .	. . . . .	. . . . .	52.10
Dry Farming.....	. . . . .	. . . . .	29.94	. . . . .	. . . . .	29.94
Secy.'s Revolv. Fund	. . . . .	. . . . .	1,000.00	. . . . .	. . . . .	1,000.00
	\$14,318.39	\$13,714.31	\$ 3,155.86	\$ 3,918.65	\$ 24.63	\$35,131.84

See summary on page 11 for statement of receipts, disbursements and balances.

## TELLER SCHOOL CASH.

December 1, 1912—November 30, 1913.

## RECEIPTS:

Farm Produce .....	\$	78.75
Pasture rents .....		45.00
Rent of Buildings.....		40.15
Bewsher Contract (rents).....		427.50
Rent of Water.....		16.00
Fuel and Lights.....		9.34
Refunds, etc. ....		13.30

## DISBURSEMENTS:

Turned over to the Treasurer to be credited to the College Cash Fund, per receipts on file.....	\$	205.25
Turned over to the Treasurer to be credited to the Teller School Cash Fund, per receipts on file.....		424.79
	\$	630.04
	\$	630.04

## TELLER SCHOOL DISBURSEMENTS.

For the Year Ending November 30, 1913.

	Teller School Cash Fund	Special Fund	Total
Labor .....	\$ 1.50	\$ .....	\$ 1.50
Permanent Improvements .....	17.00	.....	17.00
Postage and Stationery.....	21.24	.....	21.24
Repairs .....	20.25	5.10	25.35
Salaries .....	100.00	150.00	250.00
Seeds and Plants.....	12.00	.....	12.00
Telephone and Telegraph.....	7.00	5.25	12.25
Traveling Expenses .....	45.17	58.55	103.72
Light and Power.....	28.15	23.40	51.55
Water Assessments .....	108.00	.....	108.00
	\$ 360.31	*\$ 242.30	\$ 602.61

\* Previous to the taking over of funds by the State Treasurer, under the new law (March 26, 1913), all cash, except Experiment Station, was kept under the head of SPECIAL FUND.

See summary on page 11 for statement of receipts, disbursements and balances.

INSERT NO. 2.

THE COLORADO EXPERIMENT STATION BUDGET CLASSIFICATION OF DISBURSEMENTS FOR THE YEAR ENDING NOVEMBER 30, 1913.

	Salaries	Labor	Publications	Postage and Stationery	Telegraph and Telephone	Freight and Express	Heat, Light, Water Power	Chemical Supplies	Seeds, Plants and Sund. Sup.	Fertilizers	Feeding Stuffs	Library	Tools, Imp. and Machinery	Furniture and Fixtures	Scientific Apparatus	Live Stock	Traveling Expenses	Contingent Expenses	Buildings, Repairs and Land	Total
Animal Investigation .....	\$ 5.45	\$ 409.79	\$ 9.50	\$ 25.42																\$ 450.16
Chemical Section .....	5,884.95	129.58	183.00	23.68		28.06		329.69	53.46	43.31			16.75	5.75	603.36		69.30			7,370.89
Director and General .....	3,308.29	127.65	125.18	184.41	4.93	40.01			8.51			152.40		198.62			187.02	20.00		4,357.02
Entomological Section .....	2,235.70	187.08	44.37	27.95	.25	10.52		18.22	22.55			10.24	5.70	47.40	4.57		83.30		2.60	2,700.45
Horticultural Section .....	212.97	90.00		23.13	.20												20.80			347.10
Irrigation Section .....	2,095.75	325.53		58.84	2.50	137.68			174.95			21.73	140.35	81.83	164.34		390.35		489.05	4,082.90
Veterinary Section .....	150.00															4.00	5.15			159.15
Bacteriological Investigation .....	2,363.25	63.80		57.37		92.25		237.21	24.89			70.75	6.23	31.30	20.56		70.00		6.00	3,043.61
Plant Industry .....	3 236.60	670.41	305.10	141.88	52.30	12.62			108.88			8.43	30.75	160.05	252.56		253.25			5,232.83
Secretary's Office .....	979.16	10.85		148.33																1,138.34
Horse Investigation .....	549.96	469.40	12.50	6.00	18.85	56.69			131.10		2,626.69		3.75			4.00	36.45		70.15	3,985.54
Poultry Investigation .....	735.00	56.92		12.95		2.70			31.33		40.31			2.95					4.85	887.01
Flax Culture .....	133.33	.50			4.45	5.40	1.00										119.77			244.45
Brisket Disease .....				.30					1.85								40.20			50.35
Botany and Forestry .....	52.10																			52.10
Dry Farming .....																			29.94	29.94
Secretary Revolving Fund .....																		1 000.00		1,000.00
	\$21,917.06	\$2,137.17	\$1,079.94	\$ 694.34	\$ 83.48	\$ 411.35	\$ 1.00	\$ 585.12	\$ 557.52	\$ 43.31	\$2,667.00	\$ 263.55	\$ 203.53	\$ 527.90	\$1,045.39	\$ 16.00	\$1,275.59	\$1,020.00	\$ 602.59	\$35,131.84

STATE BOARD OF AGRICULTURE

FORT LEWIS SCHOOL CASH.

December 1, 1912—November 30, 1913.

RECEIPTS:

rd .....	\$ 3,532.81
Farm Produce .....	1,400.53
Commissary .....	1,053.99
Postage and Stationery .....	85.90
Pasture Rent .....	828.77
Room Rent .....	526.62
Text-books .....	168.36
Miscellaneous .....	27.85
Telephone .....	15.75
Tuition .....	40.00
Entrance fees .....	156.00
Mechanic Art fees .....	55.50
Domestic Arts fees .....	44.42
Laundry .....	69.91
Fuel and Lights .....	26.72
Chemistry fees .....	8.00
Refunds .....	138.67
Freight, Express and Drayage .....	14.00

DISBURSEMENTS:

Turned over to the Treasurer, to be credited to the College Cash Fund, per receipts on file.....	\$ 3,283.28
Turned over to the Treasurer, to be credited to the Fort Lewis Cash Fund per receipts on file.....	4,910.52
	<hr/>
	\$ 8,193.80    \$ 8,193.80

FORT LEWIS SCHOOL DISBURSEMENTS.

For the Year Ending November 30, 1913.

Budget Classification.	Special Fund	Fort Lewis Cash Fund	State Ap'n Fund	Total
Apparatus .....	\$ 360.25	\$ 136.09	\$ .....	\$ 496.34
Feeding Stuffs .....	124.42	282.07	161.68	568.17
Freight and Express .....	67.32	37.93	36.46	141.71
Furniture and Fixtures .....	115.58	66.37	16.70	198.65
Labor .....	738.28	931.14	628.75	2,298.17
Laboratory and General Supplies .....	94.57	71.26	144.18	310.01
Live Stock .....	16.50	43.50	45.75	105.75
Permanent Improvements .....	18.85	.....	457.22	476.07
Postage and Stationery .....	104.66	96.58	32.29	233.53
Publications .....	2168	73.57	28.50	123.75
Repairs .....	32.42	78.60	223.73	334.75
Salaries .....	2,391.96	3,040.48	1,288.05	6,720.49
Seeds and Plants .....	.....	39.30	.....	39.30
Telephone and Telegraph .....	41.51	54.97	42.73	139.21
Tools, Implements and Machinery .....	11.15	55.98	47.00	114.13
Traveling Expenses .....	44.80	192.10	103.20	340.10
Commissary and Supplies .....	759.71	374.97	641.59	1,776.27
Fuel .....	.....	1,219.34	.....	1,219.34
Light and Power .....	79.73	47.35	22.64	149.72
Laundry .....	29.94	29.61	10.97	70.52
	<hr/>	<hr/>	<hr/>	<hr/>
	*\$5,053.33	\$ 6,871.21	\$ 3,931.44	\$15,855.98

\* Previous to the taking over of funds by the State Treasurer, under the new law (March 26, 1913), all cash, except Experiment Station, was kept under the head of SPECIAL FUND.

See summary on page 11 for statement of receipts, disbursements and balances.

## STATE FORESTER APPROPRIATION FUND.

For the Year Ending November 30, 1913.

## RECEIPTS:

No receipts.

## DISBURSEMENTS:

Labor .....	\$	94.30	
Postage and Stationery .....		14.05	
Salaries .....		999.96	
Traveling Expenses .....		93.90	
Balance, overdraft .....		*\$1,202.21	
			\$ 1,202.21    \$1,202.21

\* Overdraft.

NOTE—The table on this insert is to take the place of the one on Page 11, in which a typographical dis-  
arrangement destroyed the proper classification of items.

SUMMARY OF THE RECEIPTS AND DISBURSEMENTS OF ALL FUNDS, STATE AND GOVERNMENT, UNDER THE CONTROL  
OF THE STATE BOARD OF AGRICULTURE, FOR THE YEAR ENDING NOVEMBER 30, 1913.

	Balance Nov.30,'12	Receipts	Transfer To	Transfer From	Disburse- ments	Balance Nov. 30, 1913	
						State Treasurer	Local Treasurer
<b>FUNDS FOR INSTRUCTION AND STATE SERVICE:</b>							
Tax (Mill Levy) .....	\$ 412.54	\$82,035.66	\$.....	.....	81,991.66	✓.....	456.54
Land Income .....	1,974.55	12,641.26	.....	.....	13,229.07	✓.....	1,386.74
College Cash .....	17,353.99	29,088.83	.....	12,748.08	28,346.79	1,042.45	4,305.50
†U. S. Mechanic Arts.....	27,264.49	50,000.00	.....	.....	49,969.26	✓.....	27,295.23
Secretary Revolving Fund.....	2,500.00	.....	1,000.00	.....	.....	.....	*3,500.00
Registrar's Cash .....	.....	32,481.20	.....	.....	21,486.70	.....	10,994.50
Fort Lewis Cash .....	.....	4,910.52	1,140.63	1,000.00	6,871.21	✓.....	1,820.06
Teller School Cash.....	.....	424.79	888.00	.....	360.31	157.50	794.98
<b>State Appropriations—</b>							
Farmers' Institutes .....	5,133.84	.....	5,133.84	.....	3,605.04	.....	3,605.04
Fort Lewis School .....	5,288.61	5,500.00	5,288.61	.....	3,931.44	✓.....	1,568.56
Campus .....	297.00	.....	297.00	.....	.....	.....	.....
Land and Water.....	.....	.....	.....	.....	3,654.90	.....	3,654.90
State Forester .....	.....	.....	.....	.....	1,202.21	.....	1,202.21
<b>EXPERIMENT STATION FUNDS:</b>							
U. S. Hatch.....	1,781.00	15,000.00	.....	.....	14,318.39	.....	2,462.61
U. S. Adams.....	781.33	15,000.00	.....	.....	13,714.31	.....	2,067.02
U. S. Station Cash.....	7,608.35	4,317.89	.....	6,358.38	2,155.86	.....	3,412.00
U. S. Station Sales.....	30.00	258.60	.....	.....	24.63	.....	263.97
Secretary Revolving Fund.....	.....	.....	1,000.00	.....	.....	.....	*1,000.00
<b>State Appropriations—</b>							
Fruit Investigation .....	527.58	.....	527.58	.....	.....	.....	.....
Plant Industry .....	925.60	.....	925.60	.....	.....	.....	.....
Potato Investigation .....	1,370.85	.....	1,370.85	.....	.....	.....	.....
Dry Farming Investigation.....	.86	.....	.86	.....	.....	.....	.....
Poultry Investigation .....	33.49	.....	33.49	.....	784.07	.....	784.07
Horse Investigation .....	2,500.00	.....	2,500.00	.....	3,134.58	.....	3,134.58
	\$43,628.42	\$251,658.75	\$20,106.46	\$20,106.46	\$248,780.43	\$ 1,199.95	\$45,306.79

\* Revolving Fund.

Black-face type, overdrafts.

† Received July 15 for the following year. U. S. fiscal year ends June 30.

For a detailed statement of disbursements see inserts No. 1 and No. 2.

SUMMARY OF THE RECEIPTS AND DISBURSEMENTS OF ALL FUNDS, STATE AND GOVERNMENT, UNDER THE CONTROL  
OF THE STATE BOARD OF AGRICULTURE, FOR THE YEAR ENDING NOVEMBER 30, 1913.

	Balance Nov. 30, '12	Receipts	Transfer To	Transfer From	Disburse- ments	Balance Nov. 30, 1913	
						State Treasurer	Local Treasurer
<b>FUNDS FOR INSTRUCTION AND STATE SERVICE:</b>							
Tax (Mill Levy) .....	\$ 412.54	\$82,035.66	\$.....	.....	81,991.66	.....	456.54
Land Income .....	1,974.55	12,641.26	.....	.....	13,229.07	.....	1,386.74
College Cash .....	17,353.99	29,088.83	.....	12,748.08	28,346.79	1,042.45	4,305.50
† U. S. Mechanic Arts .....	27,264.49	50,000.00	.....	.....	49,969.26	.....	27,295.23
Secretary Revolving Fund .....	2,500.00	.....	1,000.00	.....	.....	.....	*3,500.00
Fort Lewis Cash .....	.....	4,910.52	1,140.63	.....	21,486.70	.....	10,994.50
Teller School Cash .....	.....	424.79	888.00	1,000.00	6,871.21	.....	<b>1,820.06</b>
<i>State Appropriations—</i>					360.31	157.50	794.98
Farmers' Institutes .....	<b>5,133.84</b>	.....	5,133.84	.....	.....	.....	.....
Registrar's Cash .....	.....	32,481.20	.....	.....	3,605.04	.....	<b>3,605.04</b>
Fort Lewis School .....	<b>5,288.61</b>	5,500.00	5,288.61	.....	3,931.44	.....	1,568.56
Campus .....	<b>297.00</b>	.....	297.00	.....	.....	.....	.....
Land and Water .....	.....	.....	.....	.....	3,654.90	.....	<b>3,654.90</b>
State Forester .....	.....	.....	.....	.....	1,202.21	.....	<b>1,202.21</b>
<b>EXPERIMENT STATION FUNDS:</b>							
U. S. Hatch .....	1,781.00	15,000.00	.....	.....	14,318.39	.....	2,462.61
U. S. Adams .....	781.33	15,000.00	.....	.....	13,714.31	.....	2,067.02
U. S. Station Cash .....	7,608.35	4,317.89	.....	6,358.38	2,155.86	.....	3,412.00
U. S. Station Sales .....	30.00	258.60	.....	.....	24.63	.....	263.97
Secretary Revolving Fund .....	.....	.....	1,000.00	.....	.....	.....	*1,000.00
<i>State Appropriations—</i>					.....	.....	.....
Fruit Investigation .....	<b>527.58</b>	.....	527.58	.....	.....	.....	.....
Plant Industry .....	<b>925.60</b>	.....	925.60	.....	.....	.....	.....
Potato Investigation .....	<b>1,370.85</b>	.....	1,370.85	.....	.....	.....	.....
Dry Farming Investigation .....	<b>.86</b>	.....	.86	.....	.....	.....	.....
Poultry Investigation .....	<b>33.49</b>	.....	33.49	.....	784.07	.....	<b>784.07</b>
Horse Investigation .....	<b>2,500.00</b>	.....	2,500.00	.....	3,134.58	.....	<b>3,134.58</b>
	<b>\$43,628.42</b>	<b>\$251,658.75</b>	<b>\$20,106.46</b>	<b>\$20,106.46</b>	<b>\$248,780.43</b>	<b>\$ 1,199.95</b>	<b>\$45,306.79</b>

\* Revolving Fund.

Black-face type, overdrafts.

† Received July 15 for the following year. U. S. fiscal year ends June 30.

For a detailed statement of disbursements see inserts No. 1 and No. 2.



## THIRTY-FIFTH ANNUAL REPORT

## INVENTORY OF PROPERTY, 1913.

## AGRICULTURAL COLLEGE AND EXPERIMENT STATION:

College Farm, 320 acres.....	\$128,000.00	
East Farm, 152 acres .....	76,000.00	
Pasture, 1,350 acres .....	21,000.00	
Cheyenne Wells, 160 acres (Substation).....	4,000.00	
Rocky Ford, 40 acres (Substation) .....	10,000.00	
Total lands .....		\$239,000.00
Total buildings .....	\$384,662.51	
College equipment .....	176,419.18	
Experiment Station equipment .....	51,591.29	
Total .....		<u>612,672.98</u>
Total College and Experiment Station.....		\$ 851,672.98

## FORT LEWIS SCHOOL OF AGRICULTURE:

Lands, 6,400 acres .....	\$160,000.00	
Buildings .....	145,476.07	
Equipment .....	10,694.99	
Total .....		316,171.06

## TELLER SCHOOL OF AGRICULTURE:

Lands, 178 acres .....	\$ 8,900.00	
Buildings .....	140,017.00	
Equipment .....	10,000.00	
Total .....		<u>158,917.00</u>
GRAND TOTAL .....		<u>\$1,326,761.04</u>

## Semi-Annual Meeting of the State Board of Agriculture, June 4, 1913

The work of the various institutions under the control of The State Board of Agriculture, as outlined in the reports of the President of the Agricultural College, which include the report of the Director of the Experiment Station and other executive officers, as made at the Semi-Annual Meeting of the Board in June, and the Annual Meeting in December.

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### REPORT OF THE PRESIDENT OF THE AGRICULTURAL COLLEGE.

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*To The State Board of Agriculture:*

This week marks the closing of another school year. As I think over the work that has been done in instruction, in research, and in the extension service, I feel justified in the statement that it is one of the very best years we have had.

In the educational work on the campus we had a very gratifying increase in students. College classes increased from 322 to 403, showing a growth of 25 per cent. The School of Agriculture classes from 331 to 365, a growth of 10 per cent. The Conservatory shows a slight increase and we had a good increase in attendance for Farmers' and Housekeepers' Week.

In the Experiment Station, practically all the work done on special appropriations made by the General Assembly had to be discontinued because only 50 per cent of these appropriations was finally paid, and none of the appropriations made by the Nineteenth General Assembly has as yet become available. The work carried on under the Hatch and the Adams funds has been very satisfactory.

The carrying on of extension work has been difficult on account of the uncertainty of funds. Most of this work is done under special appropriations from the General Assembly. Only half of the \$10,000 appropriated for carrying on Farmers' Institutes was paid, and nothing has yet become available of the money provided by the Nineteenth General Assembly. In spite of this we have done much extension work. Aside from general correspondence, farmers' institute meetings, and the giving of special lectures, we provided educational exhibits at four fairs, and at the National Western Stock Show, conducted one Institute Train, one Demonstration Train, two Short Courses, and sent speakers to fourteen Normal Institutes, meeting in all 136,725 persons. This work would not have been possible without the hearty co-operation of the railroads, because the funds at our disposal were wholly inadequate to do this work.

At present we are doing little in extension work; Superintendent Hinman has been on leave of absence since May 1st, and is not counting on taking up his work again for four months. Such work as we are doing is directed from my office, and we are also continuing the publication of "News Notes."

#### INSTRUCTION.

The work in classrooms and in the laboratories has been especially good. We have had good team work among the various departments and the attitude of the students has been right. Leadership among the students has been especially strong, with freedom from discontent, and a general constructive effort has characterized the work of the students in all their activities. In the College much of this is due to the efforts of Dean Johnson and the success with which he handled the many details of registration and the adjustment of many and various conflicts, to his care in looking after absences, and to his personal work with the students.

Principal Netherton has developed his system of administration so that the School of Agriculture started in October with clock-like precision, and this younger student body made a record in attendance and in classroom performance far ahead of any past year.

Miss Corbett, our Dean of Women, has done much for the student life of the girls through frequent conferences and home visitation. Through various women members of the faculty the out of class hours of the girls have been enriched through special lines of study in connection with the Y. W. C. A., the co-ed prom., a social evening when the girls of the school were the guests of the college girls, and the Shakespearean play given in the open on the campus the week before commencement.

#### DEPARTMENT OF RURAL AND INDUSTRIAL EDUCATION.

A Department of Rural and Industrial Education has been formed and partially manned through the employment of Mr. C. G. Sargent as Rural School Visitor. Mr. Sargent is devoting all his time to extension service, in promoting the teaching of Agriculture, Domestic Science, and Mechanic Arts in the rural schools, in co-operating with county superintendents in the work of consolidating districts where conditions favor consolidation and in aiding them in starting boys' and girls' agricultural clubs. For the present Mr. Sargent is reporting to me as Acting Head of the Department. I quote from his report, as follows:

"No definite plan of work could be adopted at the start, but we undertook to handle anything that came up or could be stirred up in order to improve the rural schools. In attending to the correspondence, of visiting schools, and in traveling over the State I made every effort possible to study conditions and be in a position to suggest remedies. I spent five weeks with the Rural School Exhibit, one week at the Stock Show, and four on the Special Train. I visited twenty-six different counties; I traveled 11,052 miles, and have met 60,000 people at the Stock Show, on the Special Train, and in traveling over the State visiting schools and attending teachers' meetings. I have made three visits, of several days each, to Douglas county in connection with the dairy contest there. I made a complete educational survey of

Mesa and Larimer counties and have some consolidation work under way all the time. Two consolidations have been carried through. The Laporte Consolidated District is the best rural school district in Eastern Colorado and in some respects it is the best in the State. This consists of approximately five districts. The Fort Lupton consolidation, while it consists of only two districts, is a very important one, since because of the consolidation it has become a district of the second class, thus greatly increasing its opportunities for efficiency. A proposed consolidation is well under way in Adams county. This work has amounted to an educational campaign and has attracted the attention of the entire counties, where it has been undertaken. I have attended to a large amount of correspondence, some of which was to get lists of teachers, boards and eighth-grade pupils for the college, answered letters in regard to requests for assistance and for information concerning my department, while others were of a general nature. In a few cases my advice has been asked and followed by some county superintendents, where it has helped to determine the policy of the superintendent with respect to the further formation of small, weak and new districts and has had its influence in helping to determine their attitude toward consolidation. This has been true in Mesa, Delta, Montrose and Larimer counties."

#### GRADUATES.

The graduating class this year is not quite so large as last year, numbering forty-five, with one man taking two degrees. This class numbered only fifty-five in the freshman class four years ago.

Those receiving the certificates of the School of Agriculture numbered thirty-one. The class was numerically much stronger. On account of sickness many were unable to complete the prescribed course.

#### SUMMER SCHOOL.

At the March meeting of the Executive Committee, it was decided to hold a summer session, and Dean Johnson and myself were appointed a special committee to prepare a working plan. I quote from the report of the special committee:

"It is the aim of the summer school, first, to provide instruction in Agriculture, Home Economics, and Mechanic Arts, for teachers. Second, to provide courses in Science, Language, and Mathematics. Third, to arrange a series of special lectures on topics bearing on rural life and social service."

Colorado Farm Crops, Elementary Soil Studies, Farm Homes, Botany, Principles of Feeding, Stock Judging, Plant Propagation, Garden Work, Orchard Craft. Work for the grades—bench work in wood, forge work. Rural School Management, Rural Playgrounds. French, German, Mathematics, Chemistry, Physics, Measurement of Water, Water Requirements of Plants, Domestic Art, Domestic Science, Home Management. Farm Insects, Rural Sociology. The budget for the summer school was approved for \$1,425.

#### IMPROVEMENTS.

The Irrigation Laboratory has finally been finished and put into service. The completion of this laboratory puts at our disposal exceptionally good

facilities for certain lines of research work in the measurement of water.

The steel grandstand on the new athletic field has been erected and a great deal of shrubbery planted. Just now we are holding back the seeding of the football field until weather conditions give us a better assurance of good growth. Quite a number of minor improvements will have to be made this summer. We shall use the same plan as last year, organizing our janitors into a repair squad under the direction of Building Superintendent Lawrence and Head Janitor Kelly. I am very anxious to see the Chapel tinted and this room provided with curtains for darkening the windows and with a good moving picture machine. A great deal of fencing will have to be done and a great many of the roofs need painting. All the barns should be painted.

Last summer we did a great deal of construction work; this summer we shall have to confine ourselves to repair work. Practically all these improvements will be made by our own men. Our farm men are becoming very efficient as a general service squad. Just how extensive this work has become can best be shown to you by quoting from the report of Professor Keyser, our Farm Manager:

"The College Farm is becoming more and more a college service bureau in that when work, freight hauling or other kinds of service are needed, the institution and departments within the institution are calling upon the farm to perform this work to a greater extent than ever before.

During the past year a concrete mixer was purchased. During the year we built and installed forty-three weirs made of concrete for the measurement of water. In addition to this work the farm force did all the concrete work upon the storage reservoir of the new Irrigation Laboratory, the approaches to the calibration reservoir, the foundations for the laboratory, the interior of the laboratory, including floors, flumes, approaches, conduits, etc. In addition there was installed at the East Farm over 400 feet of concrete flume, over 100 feet of inclosed, underground flume with adjustable drop. About 2,000 feet of concrete curbing was installed, nearly 300 feet of concrete sidewalk was placed, making all in all a considerable total of concrete work.

A great deal of grading and road-making on the college campus was performed. The bridges in front of the veterinary plant, which had become broken down and unsafe, were removed, and the ditch was tiled with 15-inch tile for a distance of 150 feet and covered. About one week's grading was also done in leveling old ditch banks and in getting the surface of the ground and the ditch banks in a presentable condition.

The old ditch at the East Farm which had become very badly washed was filled with earth and settled. The work on the lawns at the East Farm, where this construction work necessitated changes, has very nearly been completed.

A new gravel walk and surface graveling of the roads to the Horse Breeding Plant and the dwelling on the East Farm, have been completed. In all there were put down at the Horse Breeding Plant the dwelling, in front of the library, and between the railroad track and the circle drive, approximately 800 cubic yards of gravel surfacing.

The roadways approaching the irrigation laboratory from the west and from the east were entirely changed and rebuilt, necessitating the removal of about 500 cubic yards of earth.

The campus between Plum and Laurel streets and between Laurel and Howes streets has been parked along the new curbing and the grade made uniform, so that it is in perfect shape for seeding.

During the summer, also, the farm force did the major part of the labor on the athletic field, moving, all told, about 3,000 cubic yards of earth and building the new bath house, including interiors, with concrete floors, concrete showers, rubbing tables, and about 200 individual lockers. During the year a dray wagon was purchased and most of the college freight delivered. The farm also acted as delivery agent for farm machinery motors brought to the institution for instructional purposes.

The College Farm consists of 480 acres of irrigated land and approximately 1,300 acres of unirrigated lands in the foothills four miles west. The regular farm labor force, consisting of twelve men, operates this farm."

#### CO-OPERATIVE WORK.

We are continuing the co-operative work with the Bureau of Animal Industry in breeding the American type of carriage horse and extensive co-operation in Farm Management Studies with the Bureau of Plant Industry, and in Irrigation Investigations with the Office of Experiment Stations, U. S. Department of Agriculture. We are also doing some co-operative work with the Costilla Estates Development Company, in the San Luis Valley, with the Flax Improvement Committee of the Denver Chamber of Commerce, and the study of the so-called brisket disease in Park county, and are co-operating on a demonstration farm at Julesburg, where we furnish plans and supervision. All the co-operative work has been very satisfactory. The co-operative work with the Bureau of Plant Industry is comparatively new.

#### LEGISLATION.

The Nineteenth General Assembly materially increased the duties and responsibilities of The State Board of Agriculture. It made an appropriation of \$45,000 for carrying on the Fort Lewis School, \$2,000 for the purchase of lands for a Forest and High Altitude Laboratory, and \$81,808.90 for the Agricultural College. Of this, \$7,308.90 is for interest on land indebtedness, \$22,000 for the payment of the principal on land coming due, \$5,000 for the co-operative horse breeding work with the Bureau of Animal Industry, U. S. Department of Agriculture, and the balance for general Experiment Station and Extension activities. No money was allowed for either buildings or improvements. It developed quite early in the session that our revenue system was badly in need of repair and that the income of the State was wholly inadequate to its needs. The Association of Institutions of Higher and Special Learning carried on a vigorous campaign for revenue legislation, co-operating with the Governor and with the Tax Commissioners in an effort to get a good revenue law.

The general feeling of the Assembly towards the College was friendly and, I believe, had money been available, we would have had no difficulty

in getting all the appropriations we asked for. As it is, we shall have to use much care in carrying on the various lines of activity for the next biennium. Our buildings are badly crowded; new laboratories are urgently needed.

Up to the present time we have no idea how much of the third-class appropriations will be paid, and under the rigorous clause providing that no indebtedness shall be incurred until the money is actually in the treasury, any expenditure on these funds is out of the question. In planning our budget we must remember, too, that the law making the State Treasurer the custodian of the funds of the various State institutions is now in effect, and we shall have to operate under this as soon as the Treasurer can see his way clear to take over our funds. Just how far this will influence and affect our work cannot be forefold. The budget has been partially worked out. I recommend that the Board either fix the total or leave the adoption of the budget to the Executive Committee at a special meeting about the middle of June.

#### FORT LEWIS SCHOOL.

We are having the same difficulties with the Fort Lewis School that we are having with all our work depending upon direct appropriation. Under the *no indebtedness* clause we dare not go into debt; on the other hand, I do not see how we can continue keeping someone at the school until it is possible for us to know what we may expect of the third-class appropriations, so that the budget can be made out and work kept going. If this cannot be done, we have no other alternative than closing Fort Lewis.

We have carried Fort Lewis without going into debt and when you consider all the difficulties we have had, I believe you will agree with me that we have done very well. Our troubles would have been numerous enough and large enough had we not had the financial situation to cope with.

#### TELLER SCHOOL.

No appropriation was made for the Teller School of Agriculture at Grand Junction. We have discontinued the custodian and have appointed no one to take his place, although tentative arrangements have been made for the renter, Mr. Bewsher, to look after the property. We asked the General Assembly for funds sufficient to drain the campus and part of the farm. There was much opposition, some of the members taking the position that the property was not worth the expenditure. We have a small cash fund of about \$700 on hand, which we are using to keep up the property, but the whole plan is a very unsatisfactory one.

#### FINANCES.

We found as the winter progressed, that we should have to exceed the budgets made out for many of the departments or else cripple the work, so the close of the budget year finds many of the departments overdrawn. However, the income was larger than we expected, so we are not ending the school year with a large overdraft.

I recommend that a special committee be appointed to consider the proposition of using our land income fund as a building fund. This will take \$10,000 from our regular maintenance, but it has been almost impossible to get buildings from the General Assembly, while certain appropriations for

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maintenance seem to come easy. It might be better to use the land income fund as a building fund, putting up either a \$10,000 unit each year or a \$20,000 unit every two years. The plan promises so well that I urge it for earnest consideration.

In closing I desire to express my appreciation to each and every one of you for your kindness to me and for your help in the many problems that come to us. I deeply appreciate also the helpful co-operation of the executive men of this institution and of each and every member of the Faculty and other workers.

Respectfully submitted,

CHAS. A. LORY,

*President.*

June 4, 1913.



## Annual Meeting of the State Board of Agriculture, December 10, 1913

### REPORT OF THE PRESIDENT OF THE AGRICULTURAL COLLEGE.

#### *To the State Board of Agriculture:*

Our first summer session opened June 16th, and continued for six weeks. The enrollment was small, but the students who came to us were a very earnest and industrious group. It was real pleasure to work with them. I feel that the school justified itself—that it was worth the effort and the cost, I feel sure that one reason for the small enrollment was the fact that we were so late in getting out our literature that a great many teachers had planned their summer vacation. Another reason was that we limited the field of the summer school too narrowly. It was primarily outlined for teachers. Many students desired to come for technical courses in Agriculture and Irrigation, but found no work offered. I feel sure that by getting the announcement out early and by extending the field covered by the summer school, our enrollment will materially increase.

#### BUDGET.

The budget for the school year beginning June 1, 1914, was completed and adopted by your executive committee at a special meeting held June 19th, and provides the following amounts:

#### COLLEGE.

Salaries .....	\$94,803.00
Labor .....	24,551.00
*Expense .....	46,025.00
Books .....	1,205.00
Repairs .....	5,990.00
Total.....	\$172,574.00

\* Includes reserve of \$5,000.00.

#### STATION.

##### *Adams—*

Salaries .....	\$ 12,233.00
Expense .....	2,765.00

##### *Hatch—*

Salaries .....	11,839.00
Expense .....	2,279.00
Bulletins .....	880.00

Total.....\$ 29,996.00

No budget was worked out for the Extension Service because we had no idea how much of our special appropriations would be paid.

#### IMPROVEMENTS.

Quite a number of improvements have been made on the campus, a great deal of general repairing was done in the Veterinary Building, and the surrounding grounds have been much improved. The sidewalk has been ex-

tended to the Pathology building, and the area between the Veterinary Hospital and the Pathology building seeded to lawn. The inside walls of the Mechanical building were painted and all the shops overhauled. New motors were installed in the forge room and service has become more reliable. We found it necessary to increase the equipment in woodworking machinery and twelve new lathes are just about ready for installation. The Chemical building was given a general overhauling, the walls of the laboratory painted and extra lockers provided. Quite a little work was done in repairing the Horticultural building. The walls in the front hall of the Main building have been painted, the chapel walls given three coats of paint, all the furniture varnished, and the floors oiled. In the Civil and Irrigation Engineering building the floors and the furniture were varnished. In Agricultural Hall additional filing space was provided by building a screen across the west end of the lower hall. A number of repairs were made in the Dairy Laboratory. The roof and the outside woodwork of the Conservatory of Music were painted and the inside of the building put in good repair. Racks to hold 130 new guns were built in the Armory. A water main was carried from the new Hydraulic Laboratory to the buildings now occupied by the Farm Superintendent, and a sewer line put in for this building. The whole building was overhauled and a bath room and a pantry added, the cellar was repaired and the building painted.

In June, bids were asked for remodeling one of the dwellings for a President's residence. The two bids received were considered too high and your Executive Committee decided to have the work done under the supervision of Building Superintendent Lawrence. When the work was started it was found that much more would have to be done on the building than was originally thought necessary. The building has had practically no repairs for years, parts of it were found in very bad condition. A very efficient corps of carpenters was finally gotten together, but the work has progressed rather slowly because it was necessary to use the carpenters in providing extra classroom facilities. Work was delayed, too, because for a time we found it almost impossible to get plasterers. We found that the cost could not be kept down to the original estimate, so it was thought best to increase this rather than to have the residence unsatisfactory when completed. The building is going to be very satisfactory and it will serve its purpose admirably. A number of repairs were made on the campus, new pole lines for carrying the electric light and telephone wires were constructed for supplying service to the Hydraulic Laboratory, to the residence of the Farmer Superintendent and to the barns. The parking along Laurel street was brought down to grade. A number of new walks were built, and a great deal of work done on the new Athletic Field. Substantial pole fences have been built at the barn and a great deal of general repairing done.

All in all, the plant is in first-class condition. The best proof that I can give you of the general good order of the buildings and of the efficiency of our service is that we weathered the great storm of last week, when upwards of forty inches of snow containing three inches of water, fell in four days, without a single roof damaged or any interruption of our telephone or light service. The walks were kept open and classes met with an unbroken schedule.

## THE FIFTH YEAR OF INSTRUCTION.

The College began its thirty-fifth year of instruction September 2d. The early registration was heavy, the increase over the first day of registration of last year being 91½ per cent. September 30th, the increase over the corresponding time last year was 30 per cent.

The School of Agriculture opened October 7th. Here, too, the early registration was heavy. The increase over last year was practically the same as that of the College classes. The Registrar reports the following enrollment:

	Men	Women	Total
College students .....	330	161	491
C. S. A. students.....	307	104	411
Conservatory of Music.....	24	80	104
Total.....			1,006
Out-of-state students, C. A. C..	29	9	38
Out-of-state students, C. S. A..	22	4	26
Accredited high schools not represented—			18.
Counties not represented in college—			17.
Counties not represented in School of Agriculture—			13.

This gives a total of 1,006 young people on the campus. The combined enrollment of the College and the School of Agriculture is 902; 2.1 times as large as it was four years ago.

The rapid growth of the institution, without a corresponding growth in building and equipment, has made the work of administration and the work of instruction heavy. It has made necessary a very careful room survey, the purchase of extra apparatus, and the employment of more instructors.

The funds for maintenance have not been increased. As a matter of fact, with the nonpayment of our special appropriations, we are now receiving less than we did four years ago. We find it no longer possible, however, even should we have the funds for our regular faculty to do the extension work we did then, because all the time of the instructors is needed for their classes.

We have had few changes in the Faculty. The work in classrooms and laboratories is going along very nicely. In many respects I feel that the work is stronger this winter than in previous years. The spirit in the student body is excellent. We have had a good season in athletics and I feel that we have set a new mark in college sportsmanship.

## THE EXPERIMENT STATION.

The report of the Director of the Experiment Station is hereby made a part of this report, and it shows you the work that is being done. We have been unfortunate in losing many men in the Experiment Station, made unavoidable by the nonpayment of our special state appropriations. We have lost every field man, and a great deal of the basic work of the Station, such as in Animal Husbandry, had to be discontinued. It was especially unfortunate that we could not continue the Poultry Investigations, and that we are not in a position to do more extensive work in the investigation of the potato disease, which has made such serious inroads in our potato in-

dustry. We had to give up our fruit investigations, and when funds become available, it will take at least two years to again bring together as efficient a corps of field men as we have lost. Colorado is a large state, and at least two years are necessary for a field man to get in touch with its varied conditions.

Colorado badly needs more service than the Station can give, and I trust the day is not far distant when the Experiment Station will have a definite maintenance fund provided by the State, that we can be certain of receiving year after year.

#### EXTENSION SERVICE.

With the exception of such service as we can render here on the campus, or that is paid for by the counties or communities requesting it, we are able to do little extension service. We found it impossible to send lecturers to the Teachers' Normal Institutes this summer, and nothing was done in Farmers' Institutes except one series in Routt and Moffat counties. We furnished judges for thirteen county fairs and the State Fair, and we have sent men to assist communities in combating animal diseases and insect pests where the expenses were paid. It is very discouraging to see such an important line of work cut down. It is through the Extension Service that the College can carry the work of the classroom and the laboratories and the results of investigations of the Experiment Station, in fact, the knowledge and experience of the institution, to the communities of the State and to the individual farmer, stockman and orchardist. We are doing all we can through correspondence. The heavy teaching schedule makes it impossible to answer all letters promptly.

All the correspondence relating to dairying and to the poultry industry, formerly taken care of by our dairy field man and by our poultryman, must now be taken care of by the head of the Animal Husbandry Department. The correspondence relating to fruit growing and to potato growing, formerly taken care of by our field horticulturist and potato specialist, must now be answered by the head of the Horticultural Department, and so on. When you remember that the correspondence is much larger than formerly you can understand why at times it is impossible for our men to answer all letters of inquiry promptly.

One encouraging part of our Extension Service is the work of the Rural School Visitor, Mr. Sargent. I feel that you are abundantly justified in continuing this work and in paying for it out of our maintenance fund, even though we have to get along with a little less equipment or suffer greater inconvenience on the campus. There is such a call for this work and Mr. Sargent is meeting with such a ready response that it has already grown far beyond the endurance of one man to carry. Fortunately we have the cooperation of a great many organizations, the one of most importance being the State Teachers' Association, and people interested in rural school betterment. I believe that the next few years are going to be rich in returns in this important work.

#### FARM MANAGEMENT INVESTIGATIONS.

It is very fortunate that the Nineteenth General Assembly provided for County Agriculturists and that the Bureau of Plant Industry, U. S. Depart-

ment of Agriculture, had an appropriation and was ready to co-operate with Colorado in placing County Agents in four of our counties or sections. This means that at present four men, Mr. D. C. Bascom, in Logan county; Mr. E. L. Lauck, in El Paso county; Mr. S. Van Smith, in Pueblo county; and Mr. A. C. Cooley, in a group of four counties, Costilla, Conejos, Rio Grande, and Saguache, are giving all their time to the agricultural problems of these counties and districts with very satisfactory results. Mesa county has employed Mr. William Harrison, as county agriculturist and horticulturist, and Boulder county has the funds raised for employing a man. The work that these county agriculturists are doing in a way takes the place of our special field men and keeps down the need for extension service from here. We have financed our share of the salary and expenses of the State Leader from our maintenance fund, and feel that we are justified in this expenditure. Through this fortunate arrangement we have been able to keep some of the work so badly needed in the agricultural regions of the State at a high efficiency. We find, too, that when the county pays a part of the expenses of this extension service the people in the county take much greater interest in it. I hope that the Lever Bill will be enacted into law by the Sixty-third Congress. This will enable us materially to extend the work now being done in Farm Management investigations through the county agriculturist system.

#### FINANCES.

The finances of the year have given us considerable trouble. The uncertainty of the special appropriations and the effect of the new law making the State Treasurer the custodian of all our funds, have been sources of grave concern. By special arrangement with State Auditor Kenehan and State Treasurer Leddy, we were allowed to continue under the old system until the end of the fiscal year so as to keep our records for the year complete. However, arrangements have been made to comply with the new law December 1st. Blanks are being printed and every effort is being made by the Secretary and by myself to make the transfer cause as little inconvenience as possible. Throughout the year we have lived within our income, except in the co-operative work with the U. S. Department of Agriculture, where contracts had been entered into, and we had to meet our share of the expenses.

Under the new law all the State funds will be taken over by the State Treasurer, the Auditor and Treasurer both taking the position that they have no right to take over the government funds, which must be kept in the hands of the local treasurer. Under the conditions of administration governing these funds there can be no overdraft; we shall therefore always have a net balance with the local treasurer. We feel, under these circumstances, that the Board should require interest on the daily balances. I commend this for your consideration.

#### FORT LEWIS SCHOOL.

Through the co-operation of Governor Ammons, Auditor Kenehan, and Treasurer Leddy, we have been able to continue the Secondary School of Agriculture and Mechanic Arts, at Fort Lewis. It took a great deal of planning to finance the school this year. Not until August did we know for a

certainty that the school could continue. After the finances were assured work was rushed on some much needed repairs and the budget was worked out for the year on the lowest possible basis of expenditure. The work for the girls was discontinued. When the school opened, October 14th, the enrollment was discouraging. The people of the southwest had given up hope that it would be in session this winter and those who could planned to send their children elsewhere. The work is going on satisfactorily and the students there are getting good training. However we cannot hope to continue the institution on the present basis. It is neither right to the students, the faculty, nor the State. For the education of thirteen boys, and the upkeep of the plant, the State is paying far too much. These thirteen boys could be taken care of here with little expense, if such a thing were permissible. I believe that the southwest needs an educational institution like we are trying to establish at Fort Lewis. I believe it can do a great deal of good there, but I feel, too, that we must face the situation squarely and frankly, and tell the General Assembly that under the present arrangements we cannot maintain the type of institution that is needed. We cannot hope that Fort Lewis will grow either in enrollment or in popular favor, until we have a definite maintenance fund and can plan for a certainty that the school will be opened year after year. I feel that the State Board of Agriculture has done its full duty toward this new institution. The Secretary's office has taken care of all the accounts without extra charge to the Fort Lewis fund. I have given my time to the school freely and unsparingly without extra charge to the fund. In fact this whole institution has been behind it, but up to the present time we are not getting satisfying returns. Under present conditions it would be better for all concerned to lease the farm, and have the students and the faculty here. The equipment and the teaching force here would afford those boys good instruction. We have not the equipment and the faculty does not have the facilities for giving them the same instruction there. The cost to the student is practically the same there as here, the only difference being the railway fare.

#### THE TELLER SCHOOL OF AGRICULTURE AT GRAND JUNCTION.

Work at this institution was made impossible when the General Assembly could not see its way clear to make an appropriation for draining the land. Until this drainage is done, the plant is useless for school purposes. The grounds have been rented, the tenant acting as custodian of the buildings. A recent windstorm did a great deal of damage and practically all funds belonging to the institution will be needed for repairs.

Colorado is having the same experience with its secondary schools of agriculture as a number of other states. These schools, while desirable and needed, as a rule are not well supported by the General Assembly and from general experience the indication is that it is better to have one strong agricultural college and the courses in the various high schools extended to include agriculture and other vocational training.

#### APPRECIATION.

The progress we have made and the work we are doing has only been possible through the cordial co-operation on the part of the Board of Control, the executive men of the faculty, and the workers in all lines of activity.

Our men, each and every one, have given themselves freely and without reserve to the service of the institution and of the State.

The work has been a real pleasure, and I trust we may all be able to grow more efficient in our service.

Respectfully submitted,

CHAS. A. LORY,

*President.*

December 10 1913.

## COLORADO EXPERIMENT STATION.

## DIRECTOR'S REPORT.

*To The President:*

I present herewith the Annual Report of the Agricultural Experiment Station for the year 1913.

The personnel of the Station has changed greatly during the past year, partly because of failure to receive state appropriations for certain departments, and partly because we have been unable, with our shortage of funds, to pay the salaries that have been offered some of our men by other institutions. For this latter reason we have lost a few of our best workers every year, which, I believe, is a condition to be deplored. We have lost from the Station work during the past year, from the causes above mentioned, E. R. Bennett, Horticulturist; B. F. Kaupp, Veterinary Pathologist; George P. Weldon, Assistant in Entomology; R. S. Herrick, Field Horticulturist; C. L. Fitch, in Charge of Potato Investigations, and W. E. Vaplon, in Charge of Poultry Investigations. No Station can do its best work and lose so large a percentage of important workers during a year. Each one of these men had work in progress that must be dropped, or picked up by someone else who is called to the work at a later date. It is very seldom that an experiment station worker will pick up the threads of an investigation that has been planned and conducted by someone else and carry the work to a profitable conclusion.

I am glad to call attention to the completion of the hydraulic laboratory and to the excellent service given since it was ready for operation, on the 31st of May. The laboratory has been very efficient, and, I believe, will furnish very important data upon which to base water measurements when ever such measurements are needed, and in this way will furnish a basis for the most successful and intelligent use of water for irrigation purposes.

I have just been informed of the very generous act of Mr. E. B. McLean, in donating to the U. S. Department of Agriculture his famous stallion, "Nala," which, I understand, is to be placed at this Station to be used in the horse breeding investigations that are carried on here in co-operation with the U. S. Department of Agriculture. This very liberal act of Mr. McLean should place our horse breeding work on the best possible basis.

I wish again to call attention to the great importance of securing continuous appropriations, if possible, from the State, for the support of the experiment station work, and also the importance of making some arrangement by which the appropriations that we receive may be used to cover the period elapsing between the end of the second fiscal year and the time when the appropriations made by the legislature will become available. Two years ago and again this year we have passed the first year of the biennial period without receiving any of the money that was appropriated for experimental purposes, and neither two years ago, nor at the present time, has it been possible to get any information as to whether or not the total appropriation, or any considerable part of it, would become available for our use.



Because of the failure in state funds we have been unable during the past year to carry on, in any satisfactory manner, the projects that are being supported by the state appropriations, except the work of the horse breeding station, which we have been compelled to continue because of our contract with the U. S. Department of Agriculture. The money spent in this work, however, we have had to take from other funds, hoping that we shall be able to replace it when the state appropriations become available.

Aside from the experimental work carried on by the Irrigation Section and the horse breeding, both of which are in co-operation with the U. S. Department of Agriculture, the Station has received a small fund from the Colorado Flax Development Bureau, which enabled us to carry on an investigation for the purpose of determining the value of flax as a crop to be grown in our unirrigated sections in eastern Colorado, and to publish a report (Press Bulletin No. 57) on the same. The Stock Growers of Jefferson County have also been supporting the investigation of a peculiar malady among cattle in high altitudes in this State, which is commonly called the "brisket disease," the work being in charge of the Veterinary Section.

The Costilla Estates Development Company, in the San Luis Valley, has also been co-operating with the Station in an investigation to determine what crops are best suited to the conditions found in that Valley, and also to determine the duty of water. The Company has furnished the land for this investigation and borne all the expenses, the Experiment Station directing and planning the work, which is in charge of Mr. V. M. Cone and Prof. Alvin Keyser.

#### PUBLICATIONS.

The publications of the past year are as follows:

##### *Bulletins.*

- 186—The Fixation of Nitrogen in Colorado Soils, by W. P. Headden.
- 187—Feeding Experiments with Lambs, by G. E. Morton.
- 188—Ration Experiments with Swine, by G. E. Morton.
- 189—Beef Production on Enclosed Range, by G. E. Morton.
- 190—Variation Studies in Brome Grass, by Alvin Keyser.
- 191—Alfalfa Seed Production, by P. K. Blinn.
- 192—Home-made Cider Vinegar, by Walter G. Sackett.

##### *Press Bulletins.*

- 56—The Potato in Colorado, by C. L. Fitch.
- 57—Flax Seeding, by Alvin Keyser.

Manuscripts are in the hands of the Director for a bulletin on the "Nitrifying Efficiency of Certain Colorado Soils," by Professor Sackett, and one on "Frictional Resistance in Artificial Waterways," by V. M. Cone, besides several manuscripts for information bulletins which we have been unable to publish on account of lack of funds.

The following are brief reports presented by the heads of the various Sections of the Station.

Respectfully submitted,

C. P. GILLETTE,

*Director,*

November 30, 1913.

REPORT OF FORT LEWIS SCHOOL OF AGRICULTURE  
AND MECHANIC ARTS.*To the President:*

The following is my report for the year ending November 26, 1913:

Our second year of school closed last April with an enrollment of fifty-three pupils. Of the number enrolled, forty-four were boys and nine were girls.

Our equipment is meager. We had little farm machinery and few animals to judge, and there is not much of either within driving distance. Our dormitory conditions are very much better, this year, our school house is pleasanter, our school equipment is good, and the students are working hard, but the fact that we did not know that school would continue just when pupils were deciding where to attend, that we have little with which to entertain and few to entertain, that our Faculty is small and equipment meager, and that times are unusually close, has given us an attendance of thirteen this fall. Our school is doing better work than ever before, but we need a larger enrollment.

Our short course, held during the last week of December, 1912, was very poorly attended. I think we should hold another beginning February 16, 1914, and if it is not well attended, I feel that we should not attempt to hold another.

Our Teachers' Institute was very well attended, seventy-five having enrolled, and good work was done. The spirit was good and a unanimous request was made for a six weeks' summer session in 1914. I hope the petition may meet the approval of the State Board of Agriculture. I have heard that the conductor worked the instructors too long and too hard. If that was true, I regret it; but I knew the instructors were well paid, and I supposed the teachers wanted to get all the help they could in the two weeks.

As already stated, our school is moving along well. Conditions are better for study, athletics, and recreation, than ever before. The boys like their rooms in the dormitory, they enjoy the laboratories, the assembly room is more attractive, the new paint on window and door frames and cases gives the buildings a better appearance, and the new smoke stack makes it an easy matter to keep the dormitory constantly comfortable, with less fuel than we used last winter.

We held more than twenty evening meetings in the southwest last summer, doing extension work and telling people of our school and its work.

We must secure a man to teach forge work, irrigation and leveling, farm motors, and similar subjects, before January 9, 1914. We need electric lights, a feed grinder, gasoline engine, more soils apparatus, reference and other books, possibly an Edison Home Moving Picture Machine, new sidewalks, more farm machinery, and more stock. The whole School went out yesterday to judge some very fine sheep, imported from England, but it took a team and wagon and a day to do it. We need to build and repair fences, clear new land, and plow up the old alfalfa fields.

We did not have enough water to irrigate our alfalfa and grain this summer, and as a result had a short hay crop. We have fifty-five head of cattle and eight head of horses and colts, and shall buy about twenty-five tons of alfalfa for them. Were our old alfalfa fields not "run out," we should have had enough alfalfa for our own use. Nearly all our unseeded ground is now plowed. We shall seed it to alfalfa in the spring.

We grew 390 bushels of oats and 150 bushels of wheat this year, nearly 15,000 pounds of potatoes, four wagon loads of cabbage, two loads of onions; and more of other vegetables than we shall need. We shall have all the hogs we shall need to butcher and possibly a few to sell. We shall have steers enough to butcher for our own use.

We are selling twenty-five pounds of butter a week to the Savoy Hotel, and about as much more to other parties. The cows gave more than 10,000 pounds of milk last month. We have nineteen calves.

We hope to haul some gravel for sidewalks before the ground freezes. We have our winter's supply of flour, sugar, and other groceries in the commissary, vegetables, apples, vinegar, etc., in the cellars, and quite a large supply of coal in each building or basement from which coal is being used. We planned to buy 500 tons of coal, but bought only 378. The coal is of a good quality and our large boiler uses less than last year, so I feel that we shall get through the winter without buying more.

The labor performed by our pupils is worth all we pay for it. We have fewer instructors than we had last year, and less help at the barn. It seems to me that we cannot reduce our expenses below the present rate each month. We cannot keep them down to the present rate, for salaries, because we must have a shop man, but we shall not need many commissary supplies after this month.

Our pastures have rented for about \$900.00 this season. We have sold several hundred pounds of butter and cream, a few hogs, and some beef. We have made repairs too numerous to mention.

Our Short Course circulars should be issued soon and our catalogues should be issued in May or June.

We feel that we have a good school, but we should like suggestions as to how we may secure a larger attendance.

Thanking you and the members of the Board for your valuable and ready suggestions and help, I am,

Respectfully,

GEORGE F. SNYDER,

Principal.

November 26, 1913.

REPORT OF FARM MANAGEMENT FIELD STUDIES  
AND DEMONSTRATIONS.U. S. DEPARTMENT OF AGRICULTURE—COLORADO AGRICULTURAL  
COLLEGE CO-OPERATING.*To the President:*

## THE WORK OF THE COUNTY AGRICULTURIST.

I submit herewith a report on the Farm Management Field Studies and Demonstrations work in Colorado from November 1, 1912, to November 26, 1913. This report includes the monthly report from October 26th to November 26th, inclusive.

From the time that I took up this work, November 1, 1912, until June 30, 1913, I devoted 60.9 per cent of my time to it, the rest of my time being devoted to college extension and college and school teaching. Since July 1, 1913, I have devoted all my time to the Farm Management work. During this time I have traveled 16,148 miles by rail, 2,958 miles by auto and 165 miles by team, a total of 19,271 miles. This mileage includes the trip to Washington, D. C., and back, in January, 1913.

I have attended seventy-three meetings, with a total attendance of 5,127 persons. I have spoken at most of these meetings either on the Farm Management work or some closely related subject.

Of the above figures the following cover the period from October 26th, at which time the last monthly report was made, to November 26th: Agents visited, 2; miles traveled by rail, 477; by auto, 210; meetings attended, 5, with a total attendance of 495.

There are at the present time five county agents at work in the State, their names, counties and dates of appointment being as follows:

El Paso county—W. H. Lauck, appointed October 16, 1912.

Logan county—D. C. Bascom, appointed October 1, 1912.

Pueblo county—S. V. Smith, appointed March 1, 1913.

San Luis Valley—A. C. Cooley, appointed July 1, 1913.

Mesa county—William Harrison, appointed October 5, 1913.

Mr. L. M. Winsor was appointed county agent for the San Luis Valley, December 1, 1912, but resigned July 1, 1913, and was succeeded by Mr. A. C. Cooley.

Financial arrangements have been completed for placing a man in Boulder county, but as yet we have been unable to find the man who seems to fill the qualifications and who is worth the salary that the people are willing to pay. We have a line on a number of apparently good men and we hope to be able to decide upon one of these within the next few weeks.

An attempt was made by Mr. P. E. Clement, instructor in agriculture in the Lamar high school, to induce the Prowers county commissioners to appropriate a few hundred dollars for paying the field expenses so that he might carry on some Farm Management work in that county. However, the county commissioners pleaded a financial stringency in the county and those interested in our work were unable to induce them to give the work any financial

assistance. This is to be regretted, because Mr. Clement finds that he has some time which he could devote to promoting the agricultural interests of the county if he were provided with means of getting over the county.

Interest in the work has been revived in Morgan county and in Washington county. Local people in both these counties are pushing the farm management work and are attempting to secure the money with which to employ a man before spring opens. A number of other counties have at different times during the year written for or asked for information about the Farm Management work, which indicates that there is some interest in this work in these counties. However, nothing definite has been done in any of the counties excepting those mentioned above, with the exception of Kit Carson county, from which I have had word to the effect that the county commissioners would likely be willing to appropriate \$1,500 a year for carrying on this work in their county.

On July 1, 1913, Mr. D. C. Bascom severed his connection with the teaching force of the Logan county high school and is devoting all his time to the Farm Management work. He has succeeded in the Logan county high school, as agricultural instructor, by Mr. Knorr, a 1912 graduate of the New Mexico Agricultural College. From meeting Mr. Knorr and talking with Principal Sexson and Mr. Bascom, I have received the impression that he is making good.

When we made the change whereby Mr. Bascom was to devote all his time to our work, we experienced a little difficulty in securing enough money to carry us through the year. The Government was unable to increase its appropriation more than \$100, making it \$700 for this year. The county commissioners were induced to increase their appropriation to \$1,100 for the year. These amounts, together with \$150 a year from the Burlington Railroad Company, and a small amount from the Logan County High School committee, did not give us within about \$400 of the amount of money that we shall need for the year. The Union Pacific Railroad Company was asked if it would be willing to co-operate with us in the county to the same financial extent that the Burlington was interested in the work. So far, no word has been received directly from them, although I have received the impression from conversation I have heard, that they do not intend to give us any financial assistance.

In El Paso county the local people seem to be well enough impressed with our work to induce the county commissioners to increase their appropriation from \$1,200 a year to \$2,000 a year. This will give us plenty of money to carry on the work in El Paso county.

In Pueblo county and in the San Luis Valley, the financial situation is the same as was provided for in the memorandum of understanding, and at the present time there seems to be no reason why the work cannot be carried on for the coming year with the amount of money in sight.

I do not know at this time how much money the Mesa county commissioners have provided for carrying on the work in their county, but I think that they will see that the work is well taken care of. As soon as I get to it I shall prepare a memorandum of understanding covering the work in Mesa county, which will include the Bureau of Plant Industry, the Agricultural

College, and the County Commissioners, and will bring the work under the same organization that the other work is being carried under, and will also permit the county agent the use of the franking privilege for matters pertaining to Farm Management.

During the week ending November 8, nine Officer of Farm Management men conducted a small farm management survey in Boulder county, under the direction of Mr. H. M. Dixon, in charge of survey work in the office of Farm Management. The party consisted of the four county agents from this State, State Leader C. J. Oviatt and Assistant State Leader A. E. Bowman of Wyoming, District Leader D. W. Working of Denver, Mr. H. M. Dixon of Washington, and myself. This survey was conducted primarily for the purpose of giving those who took part in it experience and training in conducting farm management surveys, the object of such surveys being to determine the expenses and income and net income of farms that are examined. The survey was held in Boulder county largely because it is an old, well-established farming community, and because we wished to have the information obtained to guide us in the selection of an agent for the county and for his use after he gets there and begins work.

In my travels over the State during the past year I have been very much impressed with the favorable attitude which everyone seems to take toward this Farm Management work. At the same time I have noticed a very favorable attitude toward the Agricultural College and the work which it is doing. Our work seems to have received the endorsement of all the large business and agricultural interests in the State. This interest has been manifested publicly by the State Bankers' Association in a set of resolutions which they passed at their last annual meeting. Conversation and correspondence with Mr. George T. Wells, who is now acting chairman of the agricultural committee of the State Bankers' Association, indicates that they will be active workers in the advancement of this work during the coming year. The Chambers of Commerce of the State have in many cases taken an active interest in this work. This is especially true of the Chambers of Commerce of Pueblo, Colorado Springs, Boulder, and Longmont. The Denver Chamber of Commerce has manifested a friendly interest in our work and has at various times so expressed itself, but has not taken an active interest in promoting the work in any financial way.

The Committee of Executives of the commercial organizations of the State has taken action favorable to our work, and I believe was instrumental in having copies of the new State law providing for the appointment by the county commissioners of county agriculturists, distributed to all the boards of county commissioners of the State.

The more I see of the work of the county agents, the more I am impressed with the fact that they have a big job on their hands and that they will be absolutely unable to accomplish all the things in their counties which people may expect of them. So far the demands on the agents' time have been so great in meeting the requests for help that come on the spur of the moment, that they have had little or no time for laying out definite plans for future work and for developing lines which may eventually mean more to the county than the things that they are often compelled to do on account

of the fact that many people in the county do not appreciate the value of work which does not bring immediate returns.

Since the work has been started, we have many times felt the great necessity of circulars which would explain in an easily readable way the different lines of work we are trying to develop in the counties. Such a series of circulars ought to be provided for in some way and should logically be issued from the office of the State Leader, even though they might in many cases be written by the different county agents in co-operation with the State Leader. Oftentimes a bulletin which might be written by a county agent in one county could be used by the agents in all the other counties, but the fact that the bulletin was written and paid for by one county prevents us from having the use of it in the other counties. Furthermore, we do not like to use in a county a bulletin that was written in another county, especially when it bears the name of an outside county agent and the outside co-operating parties. I do not know what provision the College might make for assisting in this work, but it is very desirable, if possible, to plan for a series of circulars as indicated above.

The amount of office expense and the amount of traveling expense connected with carrying on this office, indicates that it may be rather difficult to make both ends meet and properly direct the work of the county agents. There have been times when it would have been very desirable for me to have been with the agents in their counties to help them along with certain lines of work, but I felt that the expense of making the trip was too great in view of the fact that there was a likelihood of my budget being exhausted before the end of the year.

In connection with the regular field studies and demonstrations work, the county agents are in charge of the boys' and girls' club work, which will be carried on in the different counties. On account of the fact that this line of work takes considerable time it has not been developed to any extent in Colorado. In only one county (Logan) has the agent devoted any time to it. However, from what I have seen of the work during the past year, it seems to me that it is a valuable addition to the other work of the agent and in many cases it may be the cause of interesting the local people in our work where nothing else would have the same result. It is the policy of the Office of Farm Management, as far as possible, to have a man in each State known as the State Leader of Club Work, who will devote all his time to this work. He is usually an assistant to the State Leader. If very much club work is to be taken up in the State, it would seem desirable to develop it to a greater extent than it is now developed. It is almost necessary that some provision be made for financing a boys' and girls' club leader. I have taken this matter up with the Office of Farm Management at different times and the matter is now awaiting my arrival in Washington, at which time it will be taken up again and an attempt made to work out some plan whereby the club work can be handled by another man in co-operation with this office.

It has been the policy of the Office of Farm Management to take into Washington each year the winners in the different clubs in each State. The expenses of these trips have been paid by local people. We have some club

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winners in Logan county, but at the present time there seems to be no possibility of their going to Washington, as a special prize, on account of the fact that no money is available for sending them.

You may be interested in knowing that, on October 23d, the following men were engaged in the Farm Management Field Studies and Demonstrations work in the United States:

Agriculturists in charge of sections of the United States.....	4
Assistant Agriculturists in charge of sections of the United States...	1
District Leaders in charge of groups of states.....	4
State Leaders .....	22
Assistant State Leaders .....	6
State District Supervisors .....	8
County Agents .....	177
Club workers .....	17
Assistant District Leaders.....	1
Special Investigators .....	23
<b>Total.....</b>	<b>263</b>

The States having the larger number of county agents are as follows:

North Dakota .....	24	Wisconsin .....	5
Minnesota .....	22	Kansas .....	5
Indiana .....	19	Iowa .....	7
New York .....	18	Washington .....	6
Michigan .....	12	Vermont .....	5
Missouri .....	10	Colorado .....	4
Pennsylvania .....	9	Nebraska .....	4
Illinois .....	7	Utah .....	4

Other states having from one to four county agents are: New Hampshire, Massachusetts, New Jersey, Ohio, South Dakota, California, Wyoming, Idaho and Oregon.

Respectfully submitted,

D. W. FREAR,

*State Leader, Farm Management Field Studies and Demonstrations.*

November 26, 1913.





*Thirty-Sixth Annual Report*  
*for the Fiscal Year Ending*  
*November 30, 1914*

## Financial Statement

1914

THE RECEIPTS AND DISBURSEMENTS FOR THE YEAR.

The use that may be made of the Morrill fund and of the Land Grant fund (Land Income), is prescribed by Act of Congress of July 2, 1862, and its amendments.

The classification used for the Experiment Station funds (Hatch and Adams) received from the Government is prescribed by the Department of Agriculture.

The budget classification, for instruction and administration, is our own.

The tables are arranged so as to show, clearly, the receipts and the disbursements for each line of work under the control of the State Board of Agriculture.

## SECRETARY'S CASH.

For the Year Ending November 30, 1914.

## RECEIPTS:

*College—*

Animal Husbandry .....	\$ 4,860.33
Farm Department .....	5,427.85
Veterinary Department .....	114.50
Rents, etc. ....	449.65
Horticultural Department .....	281.05
Library .....	20.00
Civil and Irrigation Engineering.....	64.05
Chemical Department .....	164.68
Mechanical Engineering .....	56.30
Building Superintendent .....	62.39
Electrical Supplies .....	292.23
Farmers' Institutes .....	3.40
Miscellaneous Collections .....	24.90
President's Office .....	33.25
Military Department .....	7.50
School of Agriculture.....	57.00
Rural Education .....	5.05

\$11,924.13

*Experiment Station—*

Horticultural Section .....	40.00
Horse Investigation .....	4,556.69
Plant Industry .....	263.00
Bacteriological Investigation .....	40.00
Chemical Section .....	119.82
Brisket Disease .....	70.95

-5,090.46

## DISBURSEMENTS:

College Treasurer Cr. to Station Cash Fund....	\$ 4,961.46
College Treasurer Cr. to Station Sales Fund....	129.00
State Treasurer Cr. to College Cash Fund.....	11,924.13
	<hr/>
	\$17,014.59
	\$17,014.59

No tuition is charged. Laboratory fees are charged as part payment for material used. By unanimous request the Board, through the Registrar, collects subscriptions to the student paper, "The Rocky Mountain Collegian," and the athletic fees and cost of the season athletic ticket, for the Associated Students.

## REGISTRAR'S CASH.

December 1, 1913—November 30, 1914.

## RECEIPTS:

Balance .....		\$10,994.50
Entrance .....	1,167.00	
Athletic Association (From Students).....	4,909.00	
Library fee .....	1,974.00	
Collegian .....	583.50	
Music (tuition) .....	2,562.95	
Veterinary Laboratory fees.....	420.00	
Chemical Laboratory fees .....	1,882.00	
Botany and Forestry laboratory fees.....	152.00	
Physical Laboratory fees.....	607.00	
Electrical Laboratory fees.....	63.00	
Mechanical (shop) fees .....	1,244.00	
Agronomy fees .....	145.00	
Home Economics fees.....	1,060.50	
Animal Husbandry fees.....	86.00	
Civil and Irrigation Engineering fees.....	269.00	
Horticulture fees .....	5.00	
Uniform Deposits .....	2,716.00	
Zoology Laboratory fees .....	109.00	
Fines .....	143.00	
Graduation fees .....	245.00	
Telephone Laboratory fees.....	70.00	
Breakage Deposits .....	298.00	

## DISBURSEMENTS:

Athletic Association .....		\$ 5,261.00
Rocky Mountain Collegian .....		357.50
Music fees, C. A. C. Conservatory.....		2,530.95
Uniform Deposits .....		4,994.50
State Treasurer .....		10,660.00
Students' Refunds, Scholarships, etc.....		1,199.00
Balance .....		6,702.50

	\$31,705.45	\$31,705.45
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961.46  
129.00  
924.18  
14.59

## DISBURSEMENTS FROM COLLEGE FUNDS.

December 1, 1913—November 30, 1914.

	Tax Fund	Land Income Fund	Cash Fund	U. S. Morrill Fund	State Ap- propriation Fund	Total
*Advertising.....	\$ 1,375.56	\$.....	\$ 948.01	\$.....	\$.....	\$ 2,323.57
Agronomy.....	927.17	188.34	90.96	3,569.35	.....	4,775.82
Animal Husbandry..	8,186.59	524.65	3,802.52	2,586.64	.....	15,100.39
Building Supt.....	10,584.28	.....	581.95	.....	.....	11,166.23
Botany and Forestry	439.03	133.74	69.07	2,189.06	.....	2,830.90
Campus.....	340.80	.....	406.01	.....	.....	746.81
Chemical.....	550.81	195.00	203.39	2,858.26	.....	3,807.46
Civil and Irr. Eng..	819.27	464.99	37.00	2,258.28	.....	3,579.54
Commencement Acct.	332.81	.....	56.00	.....	.....	388.81
Current Expense..	6,840.67	.....	1,759.36	.....	.....	8,600.03
Electrical Supplies..	858.10	45.00	1,247.49	.....	.....	2,150.59
English and History	2,330.58	658.32	39.33	5,232.73	.....	8,260.96
Farm.....	3,645.09	96.66	9,016.61	.....	.....	12,758.36
Farm Management,	810.46	41.66	.....	.....	291.62	1,143.74
Farmers' Institutes, S. B. 173, Sec. 3.	4.90	.....	.....	.....	2,855.84	2,860.74
Firemen and Jan... 1,236.40	.....	.....	5,308.55	.....	.....	6,544.95
Home Economics... 1,708.05	313.88	.....	262.02	5,191.56	.....	7,475.51
Horticulture..... 720.79	129.00	.....	152.70	1,734.64	.....	2,737.13
Library..... 3,151.38	508.32	.....	1,645.28	.....	.....	5,304.98
Mathematical..... 403.02	25.00	.....	100.02	3,376.05	.....	3,904.09
Mechanical Eng... 3,865.02	208.33	.....	1,238.02	6,558.15	.....	11,869.52
Military..... 506.56	60.00	.....	27.53	.....	.....	594.09
Modern Languages.. 1,391.46	288.88	.....	.....	.....	.....	1,680.34
Music..... 1,040.13	225.00	.....	.....	.....	.....	1,265.13
Museum..... 674.40	108.32	.....	42.03	.....	.....	824.75
Physical Training.. 1,975.76	358.32	.....	.....	.....	.....	2,334.08
Physics and El. Eng.	553.60	464.57	570.85	3,733.25	.....	5,322.27
President's Office... 5,904.41	1,016.65	.....	56.22	.....	.....	6,977.28
Registrar's Office... 1,832.32	306.67	.....	112.69	.....	.....	2,251.68
Rural Education... 767.59	135.00	.....	311.89	.....	2,125.36	3,339.84
Student Life—Girls	828.22	150.00	.....	.....	.....	978.22
Student Life—Boys	460.10	83.32	.....	.....	.....	543.42
School of Agriculture	2,500.51	485.99	.....	297.46	.....	3,283.96
Secretary's Office... 2,866.21	307.43	.....	102.15	.....	499.98	3,775.77
State Board of Agri.	531.85	.....	142.22	.....	.....	674.07
Summer School... 677.77	.....	.....	18.81	.....	.....	696.58
Veterinary Science.. 1,408.83	768.32	.....	489.19	5,891.48	.....	8,557.82
Telephone Exchange	586.66	70.00	.....	27.51	.....	684.17
Zoology and Ent... 834.88	135.00	.....	65.59	1,502.42	17.50	2,555.39
Land and Water, S. B. 173, Sec. 2..	.....	.....	.....	.....	21,254.90	21,254.90
Multigraph Service Bureau.....	138.33	.....	18.87	.....	.....	157.20
Athletic Field..... 188.13	.....	.....	204.13	.....	.....	392.26
Veterinary Hospital.	74.50	.....	.....	.....	.....	74.50
Soils Building..... 6,817.37	.....	.....	111.51	.....	.....	6,928.88
Farmers' Congress..	.35	.....	.....	.....	.....	.35
	\$81,690.72	\$ 8,496.36	\$29,562.93	\$46,681.87	\$27,045.20	\$193,477.08

See summary on page 47 for statement of receipts, disbursements and balances.

\*Postage, publication of catalogues and descriptive literature.

INSERT NO. 1.

BUDGET CLASSIFICATION FOR ADMINISTRATION, INSTRUCTION AND MAINTENANCE FOR YEAR ENDING NOVEMBER 30, 1914.

	Apparatus	Feeding Stuffs	Freight and Express	FUEL		Furniture and Fixtures	Gen'l and Laboratory Supplies	Insurance	Labor	Laundry	Livestock	Light and Power	Perma- nent Im- provements	Postage and Stationery	Publica- tions	Rent, Fees Rebates, Etc.	Repairs	Salaries	Seeds and Plants	Telephone and Telegraph	Tools, Imp. and Machinery	Traveling Expense	Water Assess- ments	Black- smithing, Etc.	Interest	Principal	Total	
				Coal	Gas																							
Catalogues and publications			22.56			153.07			110.25																			2,323.57
Agronomy			28.16			45.30			105.64																			4,775.82
Animal Husbandry	9.97	5,042.45	322.95			238.50			2,333.55	43.19	1,743.20																	15,100.39
Athletic Field			.25																									392.26
Building Superintendent	28.40		10.94			55.26			3,284.00																			11,166.23
Botany and Forestry	1.84		3.44			65.85			181.30																			2,830.90
Campus			5.05						106.25																			746.81
Chemical	17.00		28.01			30.60			201.05																			3,807.46
Civil and Irrigation Engineering	74.32		19.09						38.80																			3,579.54
Commencement Expense			.31						38.21																			388.81
Current Expense	94.94		902.49	1,992.16	443.10	131.73		904.11	30.90			2,394.04	35.00	100.00	5.00	532.08												8,600.03
Electrical Supplies	7.50		45.68						482.02																			2,150.59
English History			1.10			39.33			254.51																			8,260.96
Farm		3.75	64.76			9.45			10,162.34		157.25		221.70															12,758.36
Farm Management			4.70						.95																			1,143.74
Farmers' Institutes	4.86		16.48			256.10			136.89		5.91																	2,860.74
Farmers' Congress																												.35
Firemen and Janitors									6,544.95																			6,544.95
Home Economics			7.09			373.76			731.59		49.52																	7,475.51
Horticultural Department	12.94		58.90			20.35			30.05				6.70	60.67														2,737.13
Land and Water																												21,254.90
Library			53.08			152.88			10.71					99.91	1,894.68													5,304.98
Mathematics	2.55					50.02			45.00																			3,904.09
Mechanical Engineering	39.61		472.35			75.00		1,572.89	746.72				1.91	70.13														11,869.52
Military Department	39.53		11.31					188.25	57.15																			594.09
Modern Languages																												1,680.34
Multigraph Service Bureau	9.39		.28			5.48			4.00																			157.20
Music Department						321.56			27.60																			1,265.13
Physical Training									286.30																			2,334.08
Physics and Electrical Department	338.19		10.57			78.55		303.41	128.55	.25			7.50	52.84														5,322.27
President's Office	17.50		16.47			101.64		.77	48.32					200.00	11.00													6,977.28
Registrar's Office			1.07			.85			184.00					347.78														2,251.68
Rural Education			25.73			3.00			70.05				10.49	118.06														3,339.84
Student Life—Girls									13.10					19.27														978.22
Student Life—Boys									7.10					21.70	5.50													543.42
School of Agriculture			3.50						45.00					249.93	262.06													3,283.96
Secretary's Office			14.27			57.28		1.20	44.80					264.33														3,775.77
State Board of Agriculture			69.48			.90			112.75					1.20														674.07
Summer School			7.25						25.00	1.88				103.10	87.40													696.58
Telephone Exchange						5.51								3.75														684.17
Veterinary	239.15	17.30	15.99			126.05		412.17	67.76	20.03	77.35			84.75	53.49													8,557.82
Zoology and Entomology			18.73			25.50			90.91					45.99	1.00													2,555.39
Veterinary Hospital		19.84							54.66																			74.50
Soils Laboratory			3.86										6,922.32															6,928.88
Museum	6.00		2.75			122.48		37.05						2.50														824.75
<b>TOTAL</b>	<b>\$ 943.69</b>	<b>\$ 5,083.34</b>	<b>\$ 2,268.65</b>	<b>\$ 1,992.16</b>	<b>\$ 443.10</b>	<b>\$ 2,392.05</b>	<b>\$ 6,262.30</b>	<b>\$ 904.11</b>	<b>\$26,896.57</b>	<b>\$ 120.78</b>	<b>\$ 1,977.80</b>	<b>\$ 2,394.04</b>	<b>\$14,063.01</b>	<b>\$ 3,491.13</b>	<b>\$ 5,182.97</b>	<b>\$ 566.98</b>	<b>\$ 2,416.98</b>	<b>\$86,899.76</b>	<b>\$ 847.33</b>	<b>\$ 742.43</b>	<b>\$ 1,962.63</b>	<b>\$ 3,423.86</b>	<b>\$ 772.06</b>	<b>\$ 174.45</b>	<b>\$ 3,654.90</b>	<b>\$17,600.00</b>	<b>\$193,477.08</b>	

## DISBURSEMENTS FROM EXPERIMENT STATION FUNDS.

December 1, 1913—November 30, 1914.

	Sales Fund	U. S. Hatch Fund	U. S. Adams Fund	Cash Fund	State Appropri- ation Fund	Total
Animal Investigation	\$.....	\$.....	\$.....	\$.....	\$11,670.66	\$11,670.66
Chemical Section		35.07	7,496.23			7,531.30
Director and General		4,276.77	.30	36.17	30.50	4,343.74
Entomological Sec.	3.20	706.03	1,381.13	25.00	2,226.48	4,341.84
Horticultural Section		95.62		25.00	4,398.28	4,518.90
Irrigation Section	2.10	3,902.27	3,640.70	59.64	500.97	8,105.68
Civil and Irr. Dept.					1,214.81	1,214.81
Veterinary Section		422.19		.55	1,794.47	2,217.21
Bacteriological Inv.		326.35	3,175.82	38.50	449.62	3,990.29
Plant Industry		4,497.97		6.00	2,979.48	7,483.45
Secretary's Office		561.39		30.00	229.22	820.61
Horse Investigation				222.22	865.42	1,087.64
Farm Department					1,900.50	1,900.50
Brisket Disease				7.50		7.50
Botany and Forestry		131.28			425.60	556.88
Dry Farming				161.01		161.01
	\$ 5.30	\$14,954.94	\$15,694.18	\$ 611.59	\$28,686.01	\$59,952.02

See summary on page 47 for statement of receipts, disbursements and balances.

## SMITH-LEVER EXTENSION FUND.

December 1, 1913—November 30, 1914.

## RECEIPTS:

Draft received from U. S. Treasurer and deposited with the  
local Treasurer ..... \$ 5,000.00

## DISBURSEMENTS:

Project 1—Organization .....	\$ 127.10
Project 2—County Agents .....	270.06
Project 3—Boys' and Girls' Clubs.....	581.46
Project 4—Home Economics .....	245.29
Balance in fund.....	3,776.09
	<hr/>
	\$ 5,000.00 \$ 5,000.00

## BUDGET DISTRIBUTION.

	Project No. 1	Project No. 2	Project No. 3	Project No. 4	Total
Salaries .....	\$	\$	\$ 137.50	\$ 141.66	\$ 279.16
Labor .....		20.85			20.85
Publications .....					
Stationery and Small Printing .....		9.90	31.20	3.50	44.60
Postage, Telephone and Tele- graph, Freight and Express..	1.73	9.01	34.36	4.43	49.53
Heat, Light, Water and Power .....					
Supplies .....	.45	4.25	42.35		47.05
Library .....		2.00			2.00
Tools, Machinery and Appliances .....			8.55		8.55
Furniture and Fixtures.....			13.00		13.00
Scientific Apparatus and Spec.....			25.00		25.00
Livestock .....					
Traveling Expenses .....	124.92	224.05	289.50	95.70	734.17
Contingent Expenses .....					
	<hr/>	<hr/>	<hr/>	<hr/>	<hr/>
	\$ 127.10	\$ 270.06	\$ 581.46	\$ 245.29	\$ 1,223.91



INSERT NO. 2.

THE COLORADO EXPERIMENT STATION BUDGET CLASSIFICATION OF DISBURSEMENTS FOR THE YEAR ENDING NOVEMBER 30, 1914.

	Salaries	Labor	Publications	Postage and Stationery	Telegraph and Telephone	Freight and Express	Heat Light, Water, Power	Chemical Supplies	Seeds, Plants and Sundry Supplies	Fertilizers	Feeding Stuffs	Library	Tools, Imp. and Machinery	Furniture and Fixtures	Scientific Apparatus	Livestock	Traveling Expenses	Contingent Expenses	Buildings Repairs and Land	Total
Animal Investigation	\$ 2,357.36	\$ 631.08	\$ 720.14	\$ 27.15	\$ 16.35	\$ 50.96	\$ 4.50	\$ 4.50	\$ 330.85	\$ 5,999.77	\$ 90.55	\$ 294.40	\$ 7.50	\$ 204.25	\$ 117.00	\$ 35.81	\$ 1,077.79	\$ 11,870.66		
Bacteriological Investigation	2,362.42	83.57	770.46	27.34	2.65	51.11	163.26	37.38	37.38	19.50	90.55	3.20	10.85	204.25	181.50	1.75	3,990.29			
Chemical Special	5,843.24	237.15	2.00	2.00	24.10	746.40	50.51	110.50	110.50	129.90	112.40	1.00	30.00	368.00	129.90	20.00	7,531.30			
Director and General	3,193.46	34.70	513.03	171.23	7.42	21.08	.65	3.80	3.80	112.40	1.00	30.00	159.97	75.00	4,343.74					
Dry Farming Investigation	143.01	18.00	18.00	18.00	18.00	18.00	18.00	18.00	18.00	18.00	18.00	18.00	18.00	18.00	18.00	18.00	161.01			
Entomological Section	3,278.31	305.40	205.76	5.45	1.45	11.27	10.84	40.02	2.80	11.09	291.00	20.00	5.35	153.10	4,341.84					
Horticultural Section	1,244.59	77.00	583.41	8.38	8.38	9.00	9.00	43.13	444.62	146.40	35.00	102.20	82.45	2,413.51						
Horse Investigation	279.15	2.00	17.00	4.14	4.14	73.60	421.88	105.29	25.95	784.72	35.00	10.14	3.20	1,087.64						
Irrigation and Drainage	3,931.17	514.06	605.28	51.14	1.58	9.58	149.10	149.10	149.10	11.22	172.85	140.00	146.22	1,348.81						
Plant Industry	5,622.06	608.65	8.00	212.69	60.84	12.90	8.67	17.57	122.55	44.40	4.00	6.60	20.86	5.00	112.65	7,483.45				
Secretary's Office	475.02	345.59	345.59	345.59	345.59	345.59	345.59	345.59	345.59	345.59	345.59	345.59	345.59	345.59	345.59	345.59	820.61			
Veterinary Section	1,717.48	144.53	12.90	8.67	17.57	122.55	44.40	4.00	6.60	20.86	5.00	112.65	2,217.21							
Botany and Forestry	141.28	415.60	415.60	415.60	415.60	415.60	415.60	415.60	415.60	415.60	415.60	415.60	415.60	415.60	415.60	415.60	556.88			
Brisket Diseases	2.00	3.15	3.15	3.15	3.15	3.15	3.15	3.15	3.15	3.15	3.15	3.15	3.15	3.15	3.15	3.15	7.50			
Civil and Irrigation Engineering	1,050.81	164.00	1,214.81	1,214.81	1,214.81	1,214.81	1,214.81	1,214.81	1,214.81	1,214.81	1,214.81	1,214.81	1,214.81	1,214.81	1,214.81	1,214.81	1,214.81			
Farm Department	1,900.50	1,900.50	1,900.50	1,900.50	1,900.50	1,900.50	1,900.50	1,900.50	1,900.50	1,900.50	1,900.50	1,900.50	1,900.50	1,900.50	1,900.50	1,900.50	1,900.50	1,900.50		
<b>Total</b>	<b>\$33,396.85</b>	<b>\$ 2,800.62</b>	<b>\$ 3,966.21</b>	<b>\$ 857.49</b>	<b>\$ 115.96</b>	<b>\$ 289.79</b>	<b>\$ 421.88</b>	<b>\$ 1,051.35</b>	<b>\$ 815.83</b>	<b>\$ 19.50</b>	<b>\$ 6,447.19</b>	<b>\$ 243.99</b>	<b>\$ 7,749.60</b>	<b>\$ 276.20</b>	<b>\$ 710.80</b>	<b>\$ 122.00</b>	<b>\$ 1,144.80</b>	<b>\$ 22.00</b>	<b>\$ 5,499.96</b>	<b>\$59,952.02</b>

TELLER SCHOOL CASH FUND.

For the year ending November 30, 1914.

RECEIPTS:

Balance State Treasurer.....	\$	157.50
Balance Local Treasurer.....		794.98
Bewsher Contract (rent) .....		300.00
Rent of water .....		16.00

DISBURSEMENTS:

Repairs .....	\$	547.90
Water Assessments .....		108.80
Balance in Fund .....		611.78
		<hr/>
	\$	1,268.48
	\$	1,268.48

## THIRTY-SIXTH ANNUAL REPORT

FORT LEWIS SCHOOL.  
State Appropriation Fund.

December 1, 1913—November 30, 1914.

## RECEIPTS:

Received from State Treasurer.....\$30,500.00

## DISBURSEMENTS:

Apparatus .....	\$ 162.30
Feeding Stuffs .....	1,988.66
Freight and Express.....	777.94
Fuel (coal) .....	850.73
Furniture and Fixtures .....	230.47
General and Laboratory Supplies .....	397.58
Labor .....	3,561.43
Laundry .....	7.70
Livestock .....	4,171.00
Light and Power.....	136.24
Permanent Improvements .....	3,876.55
Postage and Stationery .....	443.24
Publication .....	175.65
Rents, Fees, Rebates, etc.....	16.25
Repairs .....	170.21
Salaries .....	8,138.18
Seeds and Plants .....	115.92
Telephone and Telegraph .....	129.92
Tools, Implements and Machinery.....	1,522.52
Traveling Expenses .....	794.32
Commissary and Supplies .....	2,833.19
	<hr/>
	\$30,500.00 \$30,500.00

## FORT LEWIS SCHOOL CASH.

December 1, 1913—November 30, 1914.

## RECEIPTS:

Board .....	\$ 1,635.33
Farm Produce .....	2,075.87
Commissary .....	755.97
Postage and Stationery.....	34.36
Room Rents .....	134.50
Text-books .....	151.37
Telephone .....	2.10
Tuition .....	20.00
Entrance fees .....	150.00
Mechanic Arts fees.....	33.00
Domestic Arts fees .....	8.00
Laundry .....	33.71
Chemistry fees .....	1.00
Refunds, etc. ....	101.15
Freight and Express and Drayage.....	1.70

## DISBURSEMENTS:

Turned over to the Treasurer to be credited to the Fort Lewis School Cash Fund per receipts on file.....	\$ 5,138.06
	<hr/>
	\$ 5,138.06 \$ 5,138.06

## STATE FORESTER APPROPRIATION FUND.

For the Year Ending November 30, 1914.

## RECEIPTS:

Eighty per cent of Senate Bill 261, Session Laws 1911, appropriating \$10,000.00 .....	8,000.00
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## DISBURSEMENTS:

Balance, overdrawn from 1913.....	\$ 1,202.21
Apparatus .....	282.78
Freight and Express.....	106.44
Furniture and Fixtures.....	396.80
General and Laboratory Supplies.....	100.12
Labor .....	399.42
Permanent Improvements .....	2,363.85
Postage and Stationery.....	56.04
Publications .....	632.04
Rents, fees, etc. ....	1.15
Repairs .....	1.10
Salaries .....	1,545.30
Seeds and Plants.....	60.00
Telephone and Telegraph.....	14.40
Tools, Implements and Machinery.....	513.33
Traveling Expenses .....	325.02
	<hr/>
	\$ 8,000.00    \$ 8,000.00

See summary on page 47 for statement of receipts, disbursements and balances.

## STATE HORTICULTURIST APPROPRIATION FUND.

For the year ending November 30, 1914.

## RECEIPTS:

Eighty per cent of Senate Bill 537, Session Laws 1913,  
 appropriating \$2,100.00 .....\$ 1,680.00

## DISBURSEMENTS:

Freight and Express.....	\$ 303.89
General and Laboratory Supplies.....	1.00
Labor .....	18.75
Postage and Stationery.....	42.48
Publications .....	33.00
Salaries .....	477.87
Seeds and Plants.....	44.90
Telephone and Telegraph.....	1.20
Tools, Implements and Machinery.....	200.00
Traveling Expenses .....	556.83
	<hr/>
	\$ 1,680.00    \$ 1,680.00

303.89  
 1.00  
 18.75  
 42.46  
 33.00  
 477.81  
 44.98  
 1.20  
 200.00  
 566.85  
 1,680.00

SUMMARY OF THE RECEIPTS AND DISBURSEMENTS OF ALL FUNDS, STATE AND GOVERNMENT, UNDER THE CONTROL OF THE STATE BOARD OF AGRICULTURE FOR THE YEAR ENDING NOVEMBER 30, 1914.

	Balances Dec. 1, 1913			Balances Nov. 30, 1914				
FUNDS FOR INSTRUCTION AND STATE SERVICE:	State Treas.	Local Treas.	Receipts	Transfer To	Transfer From	Disbursements	State Treas.	Local Treas.
Tax (Mill Levy).....	\$.....	\$ 456.54	\$ 85,200.25	\$.....	\$.....	\$ 81,690.72	\$ 3,966.07	\$.....
Land Income .....		1,386.74	9,192.11			8,496.36	2,082.49	
College Cash .....	1,042.45	4,305.50	23,028.13	1,500.00		29,562.93	313.15	
* U. S. Mechanic Arts.....		27,295.23	50,000.00			46,681.87		30,613.36
U. S. Smith-Lever.....			5,000.00			1,223.91		3,776.09
Secretary's Revolving Fund.....		3,500.00			1,500.00			†2,000.00
Registrar's Cash .....		10,994.50	20,710.95			25,002.95		6,702.50
Fort Lewis Cash.....		<b>1,820.06</b>	5,138.06	1,568.56			4,886.56	
Grand Junction Cash.....	157.50	794.98	316.00			656.70	611.78	
<i>Appropriations—</i>								
Fort Lewis School.....		1,568.56	30,500.00		1,568.56	30,500.00		
State Forester .....		<b>1,202.21</b>	8,000.00			6,797.79		
Land and Water, S. B. 173, Sec. 2.....		<b>3,654.90</b>	24,909.80			21,254.90		
Experiments, S. B. 173, Sec. 3.....		<b>3,605.04</b>	9,395.34			5,790.30		
State Board of Agriculture of Lands.....			2,000.00				2,000.00	
State Horticulturist .....			1,680.00			1,680.00		
<b>EXPERIMENT STATION FUNDS:</b>								
Hatch .....		2,462.61	15,000.00			14,954.94		2,507.67
Adams .....		2,607.02	15,000.00			15,694.18		1,372.84
Station Cash .....		3,412.00	4,961.46			611.59		7,761.87
Station Sales .....		263.97	129.00			5.30		387.67
Secretary's Revolving Fund.....		1,000.00						†1,000.00
<i>Appropriations—</i>								
Horse Breeding, S. B. 173, Sec. 4.....		<b>3,134.58</b>	4,000.00			865.42		
Experiments, S. B. 173, Sec. 3.....		<b>784.07</b>	28,604.66			27,820.59		
	\$ 1,199.95	\$45,306.79	\$342,765.76	\$3,068.56	\$3,068.56	\$319,290.45	\$13,865.05	\$56,122.00

Black-face type, overdrafts.

\* Received July 15 for the following year, U. S. fiscal year ends June 30.

† Revolving Fund.

For detailed statement of disbursements, see inserts No. 1 and No. 2.

## INVENTORY OF PROPERTY, 1914.

## AGRICULTURAL COLLEGE AND EXPERIMENT STATION:

College Farm, 320 acres .....	\$128,000.00	
East Farm, 152 acres.....	76,000.00	
Pasture, 1,350 acres.....	21,000.00	
Cheyenne Wells, 160 acres (Substation).....	4,000.00	
Rocky Ford, 40 acres (Substation).....	10,000.00	
Total lands .....		\$ 239,000.00
Buildings .....	\$404,225.48	
College equipment .....	180,434.50	
Experiment Station equipment.....	52,578.29	
Total buildings and equipment.....		637,238.27
Total College and Experiment Station.....		\$876,238.27

## FORT LEWIS SCHOOL OF AGRICULTURE:

Lands, 6,400 acres.....	\$160,000.00	
Buildings .....	149,352.62	
Equipment .....	11,087.76	
Total .....		320,440.38

## TELLER SCHOOL OF AGRICULTURE:

Lands, 178 acres.....	\$ 8,900.00	
Buildings .....	140,017.00	
Equipment .....	10,000.00	
Total .....		158,917.00
Grand total.....		\$1,355,595.65

## Semi-Annual Meeting of the State Board of Agriculture June 3, 1914

REPORT OF THE PRESIDENT OF THE AGRICULTURAL  
COLLEGE.

*To The State Board of Agriculture:*

This week marks the close of the thirty-fifth year of instruction at the Colorado Agricultural College, and one of the most successful we have had at the institution. I doubt whether we have ever done better work in classroom, in laboratory and in the field, and in no year since I have been connected with the institution have we had a better spirit among our students, a better understanding between students and faculty, better co-operation among the several departments or better support from the people of the State.

The rate of growth during the year exceeded our expectations and early in the year our facilities were heavily taxed to provide class-room for the extra divisions. The calls upon the instructional force have been extra heavy. Five years ago yesterday I was called to the presidency of the College. You may be interested in the growth during this period. The college enrollment has grown from 217 the year closing June, 1910, to a total enrollment of 530; the freshman class from 55 to 221. The School of Agriculture, established that first year, has grown from 213 to 418; the first-year class from 120 to 221. The budget for the first year was \$140,000; for the year just closing \$172,000.

## THE EDUCATIONAL WORK ON THE CAMPUS.

During the period an indebtedness of over \$35,000 on maintenance has been entirely cleared away and our indebtedness on lands materially reduced. The Civil and Irrigation Engineering building was completed, the splendid Hall of Household Arts was built for us by Senator Simon Guggenheim, the Hydraulic Laboratory was built and put into service, new plan worked out for the campus, and a new athletic field provided. A new system of administration worked out and put into practice, the purchasing agent system started, and a cost keeping system provided for all departments.

During this period the State Board of Agriculture has been called upon by the General Assembly to assume the control of two new secondary schools of agriculture, and to take on extensive duties in connection with pest inspection, dairy inspection, the work of the State Forester, of the State Horticulturist, with the county agriculturists, and the work of gathering agricultural statistics.

The growth in enrollment is a fair indication of the growth in the various lines of activity, because the work in the Experiment Station and the work of the Extension Service has kept pace with what we are doing in education.



This year we have been able to make some marked improvement in our method of registration and in our system of keeping in touch with each student. An extensive study of the systems of markings employed by the various instructors carried on by Dean Johnson has enabled us to overcome some of the inequalities in grading. We have a better attendance, stronger work in military drill and better scholarship. A study of the scholastic record of the students, grouped according to fraternities and sororities and non-fraternity members, according to classes and according to out-of-class activities, has given us a good basis for estimating the influence of some of these out-of-class activities upon general scholarship.

## STANDING OF COLLEGE STUDENTS.

GROUPS.	Number of Students.	Average Grade.	Average Credits Made.	Credits Conditioned.	Av. Credits Conditioned.	Credits Failure.	Av. Credits Fail.	Credits Dropped.	Av. Credits Dropped.
Fraternities—									
Sigma Theta Pi.....	26	85.47	16.8	63	2.42	33	1.27	26.5	1.01
Sigma Delta.....	23	84.75	17.76	19.5	.84	8	.34	14	.60
Tau Alpha.....	26	84.67	17.94	77	2.96	46.5	1.78	19	.73
Alpha Kappa Epsilon	33	82.99	15.86	89	2.61	32	.94	23	.67
Sigma Rho Delta....	17	82.53	16.17	46	2.70	15	.88	8	.47
Alpha Pi Lambda....	23	81.86	14.43	71.5	3.06	53	2.30	77	3.34
Sororities—									
Tau Epsilon Tau....	21	86.92	18.66	3	.14	0	0	3	.14
Phi Epsilon.....	9	86.47	20.44	0	0	0	0	0	0
Tau Kappa Sigma....	21	84.22	18.38	25	1.19	6	.28	8	.38
Delta Phi.....	17	83.95	18.17	11	.64	3	.17	13	.76
Non-Fraternity.....	180	83.43	15.73	457.5	2.45	122	.67	224.5	1.24
Non-Sorority.....	89	84.62	18.49	83	.94	7	.07	48	.53
Fraternities as a Whole	149	84.21	16.49	366	2.45	187.5	1.26	167.5	1.12
Sororities as a Whole.	58	85.39	18.91	39	.67	9	.15	24	.41
Classes—									
Freshman.....	213	83.24	16.71	448	2.10	143	.67	227	1.06
Sophomore.....	97	83.09	16.31	232	2.39	101	1.04	100	1.03
Junior.....	83	84.23	20.21	119	1.43	40.5	.48	34	.40
Senior.....	60	83.59	17.4	112.5	1.87	25	.41	35	.58
Unclassified.....	37	87.05	10.48	47	1.27	18	.48	65	1.75
Special.....	1	100	1	0	0	0	0	0	0
Graduate.....	2	84.75	10	1	.50	1	.50	0	0

## GENERAL UPKEEP OF BUILDINGS.

Our buildings are in use many more hours each day than formerly and the cost of upkeep is increasing accordingly. This winter, too, has been especially hard on account of the big snow and the resulting mud. These same causes made the distribution of coal much more expensive than for any former year. Some of the buildings, too, are becoming very much congested, and some relief will have to be provided should our enrollment increase next winter.

## THE EXPERIMENT STATION.

Practically all the work of the station for the year was in the Hatch and Adams fund projects. On account of the condition of the State appropriations, all special investigations had to be discontinued. Of the amount provided for the Experiment Station by the Nineteenth General Assembly 50 per cent has been certified. This will permit the publication of much of the work of the former biennial period where funds for publication were not available, and will permit the carrying on of studies in cattle feeding,

animal diseases, dry land investigations, fruit investigations, the control of certain insect pests, and in irrigation investigations. The report of the director will give you a more detailed statement of the work of the station.

## EXTENSION SERVICE.

Our extension service has been very seriously crippled by lack of funds. During the last biennium we planned on using the full appropriation and made our budget accordingly. Only half of this was paid and the deficit had to be made up out of our maintenance fund. On account of the clause in our appropriation bill, prohibiting the incurring of any indebtedness until the amount to be paid can be certified to us by the State Auditing Board, work had to be held back until quite late in the year. In spite of these conditions, however, we were able to do a great deal of extension service because many communities in the State paid the traveling and local expenses of our men and we paid their salaries out of the regular maintenance fund. Under this plan, we sent judges to the county fairs, carried on institute series in Grand and Moffat counties, in Logan, El Paso and in Pueblo counties, and at the institutes in Greeley, Loveland, Longmont and Boulder we furnished speakers. Through co-operation with the Santa Fe railroad we were able to have a Dairy, Silo and Forage Crops Special Train over the lines from Denver to Lamar. The appropriation for the Dairy Inspector in spite of its meagerness, the appropriation made for the State Entomologist, the State Horticulturist and the State Forester, permitted these officers to carry on some very helpful institute and field work. The county agriculturists of the various counties, too, have co-operated splendidly with the institution. They have in part relieved the institution of some of the most pressing calls for extension service. They have enabled us to make the work we could do far more effective.

Our rural school visitor also has been able to be of great assistance through co-operation with the Leader of Farm Management Investigations in the organization of Boys' and Girls' Clubs. In some counties splendid results have been gotten also through co-operation with the county superintendent of schools and with the local rural teachers. We were able to have a very good educational exhibit at the Stock Show, each exhibit in charge of a demonstrator and in this way gave excellent service. Through the generosity of the Denver Chamber of Commerce, we were able to send an exhibit and two demonstrators to the National Corn Exposition at Dallas, Texas.

The requests for information have been numerous. During the year we have written over 12,000 letters in reply to requests for information. We have distributed upward of 50,000 copies of special information circulars. In our efforts for rural school improvement the year shows very satisfactory progress. Two projects were worked out for the students of the seventh and eighth grades, one a district survey, the other a garden project. These were taken up by a large number of schools and very satisfactory results have been obtained. Credit was given to the teacher for directing the work and for giving the instruction required. Prizes were awarded to the students making the best survey and handing in the best essay. Assistance has been given to county superintendents in the formation of consolidated school dis-

districts. Information given to superintendents and teachers on the teaching of Agriculture, Household Arts and Mechanic Arts in rural schools. A survey of all the third-class or rural districts of the State, covering a period of the last eight years is under way. Nineteen counties have been completed. With this comprehensive survey we shall be able to plan our work in rural school improvement with a definite knowledge of conditions. Already we are learning that some of our theories are not based on facts and that some of the things we consider essential in the way of legislation are not needed. We will be able to outline a plan with much greater assurance than has ever been possible in previous efforts at rural school improvement.

In this connection it has been very helpful to co-operate with the Educational Council of the Colorado Teachers' Association, which made the study of the rural schools and of the methods adapted to their improvement the prime object this year. We believe we will have funds enough to publish the results of our survey, and make these available for all interested in rural school improvement in Colorado.

Personally, I am more and more convinced that no educational work that our extension service is doing at the present time is more important than this work of rural school improvement. I feel that we should make every effort, not only to continue it, but to broaden its scope.

#### FINANCES.

Our special appropriations, and even the amount that would be paid under the mill levy, have been uncertain this year. Not until May did we know how much of the third-class appropriations we might expect and not until after the Supreme Court rendered its decision regarding the rights and powers of the State Tax Commission did we know what we were safe in estimating on the mill levy. The new revenue laws promised some relief for the future, but the State levy was set too low to give us the 15 per cent increase over the amount received in 1912 provided for by the new law. This loss on the mill levy and the uncertainty regarding the special appropriations, have made the financial problem especially difficult. The increased enrollment, the heavy winter, and the insistent calls for extension service made the situation acute. At times it was utterly impossible to hold down expenditures. We succeeded, however, in holding our expenditures within the estimated income and had we received the full increase provided for by the new revenue law general financial administration would have been very much easier.

#### THE BUDGET FOR NEXT YEAR.

The budget for next year has been partially worked out. We were unable to complete it on account of certain policies that had to be decided by your executive committee and on account of the heavy work in the secretary's office, which prevented the closing out of the accounts until late in the month. Nearly all departments are asking for more assistance in instruction and for more equipment. The requests as they stand far exceed the estimated income. Some building will have to be done. We must have more quarters for work in soils, and the green houses simply must be repaired. Through constant watchfulness these came through the winter without a

serious breakdown. They are not in condition, however, to go through another year. In making up this budget, too, I feel that some salaries should be increased. The burden on some of the departments has grown to be very heavy. It is only just that the good work done by the men of these departments should be recognized. In making out this budget, too, a definite understanding should be had with those instructors who are to teach in the summer session. There is some dissatisfaction with the present arrangement. We are employing all teachers on a basis of ten months of service, paying extra for vacation work. In adjusting the question of compensation for summer session teaching, the question of extension service for the summer should also be considered and arranged for, because since the Lever bill has become a law, we will be able to plan definitely for a certain amount of extension service each year, but under what conditions, or according to what plans, we cannot yet say until we receive our final instructions from the Secretary of Agriculture.

#### ENDOWMENT FUND.

Since your annual meeting a great deal of work has been done in investigating the status of our Endowment fund. We have had numerous conferences with our attorney, Mr. Fleming, and with the Treasurer, the Register of the Land Board and with the Attorney General. The matter has not yet been decided and I urge the need of getting on a basis of understanding regarding not only the administration of this fund, but also the method of its investment. The laws seem to be quite hazy on both of these, and I feel that we should go before the General Assembly with a full explanation of the situation and request that the laws be so amended that provision will be made for the proper investment of this fund.

Since the annual meeting we have had the records of our land grant brought up to date. In checking these over, we find that many payments on sales are overdue and that many leases have not been paid, a total aggregating something over \$9,000. I recommend that we request the State Board of Land Commissioners to make every effort to collect these back payments, and that we request the treasurer to invest our Endowment fund in State bonds until the question of their proper investment can be decided.

#### THE FORT LEWIS SCHOOL.

The session at Fort Lewis closed early in April. While the enrollment was small, the work done was quite satisfactory. Two boys finished the course and were given their certificates. Plans for next year are now well under way, although they had to be held back until we should know what funds would be available. Some farm equipment has been purchased, and the work on the farm is better organized, and provisions have been made for the installation of an electric lighting system, and for some minor improvements.

The faculty for next year has been engaged, the catalogue is now in press, and will be ready for distribution soon. Quite a comprehensive campaign for extension work during the summer has been worked out. We have been expecting that the school could be continued from year to year. This institution could be built up into a very serviceable one for the Southwest. In order to enlarge its usefulness, your executive committee authorized the

establishment of a teachers' training course for women. This could be done without any additional expense. No extra teachers were needed and only a few changes were necessary in the course of study. The whole aim of this course will be the training of rural teachers for the Southwest. Nothing further has been done at the Teller School of Agriculture at Grand Junction. We are doing the best we can to keep the buildings in repair, but they are deteriorating very, very rapidly in spite of our efforts. It is a pity that the State is not in position to save this equipment, but unless the ground can be drained any expenditure on the buildings proper will be useless. Some of the manual training equipment has been loaned to the Fruitvale school.

APPRECIATION.

The work of the year just closing has been made possible by each and every one doing his full duty, and each and every one striving earnestly to do his part. The load has been heavy, at times very heavy, but it was carried cheerfully and there was always the disposition to lighten that of a co-worker. I appreciate the support you have given, the confidence you have placed in the executive men of the institution. We are deeply thankful, also, for the support that has been given us and for the co-operation that has come from our fellow workers. We look back over the year with pride and with satisfaction. It has been a good year.

Respectfully submitted,

CHAS. A. LORY,

*President.*

June 3, 1914.

## COLORADO EXPERIMENT STATION.

## DIRECTOR'S REPORT.

*To The President:*

I am presenting herewith my semiannual report as Director of the Experiment Station, for the period just closing.

In general I feel very well pleased with the progress of the Experiment Station work for the year, particularly in the Sections where the men are giving the major portion of their time to Station investigations. I find that where the men are trying to carry on Station work along with a rather large amount of teaching and extension work that the Station investigations are apt to suffer severely. It is nearly always work that can be pushed aside for the more urgent demands of the moment and as a result the year passes by and the station project has comparatively little work done upon it.

Almost nothing has been done upon projects that were to be supported from state appropriations, for the reason that funds have not been available. Now that three-fourths of the biennial period has passed we are authorized to proceed with the expenditure of fifty per cent of the appropriation. It is, of course, impossible to make as good use of this money as could have been made if we had known at the beginning of the biennial period approximately the amount of money that would be available for station projects. We are planning to use a rather liberal amount of this money for the publication of popular bulletins as a means of getting important information to the farmers. A considerable amount of the appropriation had to be used as soon as it was available for the purpose of balancing funds that were overdrawn for the support of the Horse Breeding experiment, Poultry Investigations and the work of the Rural School Visitor, leaving a comparatively small amount of money to be expended upon station projects between now and the end of the period, November 30th.

I believe it will be well to get a ruling, at as early a date as possible, from the Attorney-General, to determine whether or not the money from the state appropriations can be tied to definite projects, so that we may be able to use the state money upon these projects later than December first and not have it revert to the State Treasury.

Several manuscripts for bulletins have already been received and placed in the hands of the printers for publication. The subjects of these bulletins are as follows:

Hog Cholera Control, G. H. Glover.

Necrotic Stomatitis, I. E. Newsom.

Onion Growing, by E. R. Bennett.

Some Soil Changes Produced by Micro-Organisms, W. G. Sackett.

Small Fruits, Dr. E. P. Standsten.

*Chemical Section.*—The work in this Section is supported entirely from Government money, and almost wholly from the Adams fund. Three men in this Section, Dr. Headden, Mr. Douglass and Mr. Rood, are devoting their entire time to investigational work. Only one project, that of "Causes Lead-

ing to the Softening of our Colorado Wheats," is in force in this Section at the present time. Good progress has been made in this work during the past year, and Doctor Headden informs me that he is getting results which he believes will be of considerable interest and importance. This Section is very much in need of better quarters for the work. In fact, Doctor Headden is hoping that in the near future the station work may be segregated from that of college instruction.

*Bacteriological Section.*—The work in this Section is also supported from Government money, largely from the Adams fund. Professor Sackett has worked on three projects during the past year, two dealing with soil studies and the third dealing with a serious disease of raspberries which is rather prevalent in Northern Colorado and especially in the vicinity of Loveland. Professor Sackett feels confident that he has found a practical means of control. A bulletin is well under way covering this work.

*Our Bacteriological Section* is well equipped, but there is need of a more efficient heating plant in order to make the rooms comfortable in the winter season. It seems to have been impossible to keep the laboratories at even a fairly comfortable temperature during the real cold weather of the past winter.

*Irrigation and Drainage Investigations.*—The co-operative experimental work carried on in this Section under the direction of Mr. V. M. Cone, has made excellent progress during the year. In fact the hydraulic plant has been even more efficient than Mr. Cone had hoped for. The project on the co-efficient of friction has been completed and Bulletin 194 on "Frictional Resistance in Artificial Waterways," has been published and distributed. I have been gratified with the large number of favorable comments received at my office upon this publication, and feel that it reflects much credit upon Mr. Cone and the Station as well.

At the present time Mr. Cone is planning the construction of a concrete channel in connection with the hydraulic laboratory, in order that experimental work under conditions similar to those found in canals and ditches can be carried on. This channel will be connected with the storage reservoir and the calibration reservoirs of the laboratory for careful regulation and determination of the flow through the channel. This channel will also be used for practical and experimental work in rating current meters. A variable speed electric rating car will be used for this work.

*Agronomy Section.*—Professor Keyser has made good progress this year on his correlation project and also on his project dealing with inheritance of important characteristics in grains and grasses. I believe the progress of the work this year was due quite largely to the fact that we were able to give Professor Keyser an efficient man, Mr. Boyack, who devoted almost his the east pasture, but may need it ourselves.

Some 85 varieties of alfalfa are represented on the grounds of the Alfalfa Station at Rocky Ford. Mr. Blinn has some very interesting results to report upon his experiments for the production of alfalfa seed. He finds that by preventing the deep feeding of the alfalfa plant he is able to throw it into seed production. In some cases this may be due to high water table, by destroying the long tap root, or to dry conditions of the subsoil, forcing the

plant to feed from lateral roots near the surface, or seed production may be artificially induced by cutting off the tap roots. For a rather full report of this work see Professor Keyser's semiannual report.

Our dry farming investigations have not had very much support during the present biennial period because of total lack of funds for the support of the work. However, Mr. Adams has remained on the Station Farm at Cheyenne Wells, where he has carried on regular cropping of the land for the production of grain and forage crops with which to fill the pit silos, and has been giving the Station the results of his investigations without charge. I hope to be able to allow a small amount at least for the better support of this work during the remainder of the present fiscal year.

*Entomological Section.*—The work on the habits and life history of plant lice continues to occupy the larger part of the investigational work in this Section. However, considerable attention has been given to the project having for its object the control of certain insect pests through the destruction of their eggs. We have also begun some experimental work upon the codling moth, and hope to carry this work through the coming summer and fall for the purpose of helping the fruit growers of the State, and especially the orchardists on the Western Slope, to find some method of controlling this pest at less expense. Most of the fruit growers in the Grand Valley are making six or seven applications of arsenate of lead to their trees each season for the control of this insect. I fully believe this work can be reduced one-half and yet obtain better results. If I am correct in this opinion, it would mean a clear gain of not less than \$150,000 each year to the apple growers of Mesa County alone. It is for this reason that I planned the experimental work in that section this year.

*Irrigation Section.*—There are two projects in force in this Section under the direction of Professor House. One of these is upon sub-irrigation and the other is the investigation of the duty of water on the College farm. Professor House wishes to continue these lines of investigation during the coming summer.

*Animal Husbandry Section.*—There has been no money for experimental work in this Section during the present biennial period. I am hoping to be able to put aside money enough from the State appropriation to enable Professor Morton to do some experimental work in Animal Husbandry during the present year.

*Horse Breeding Investigations.*—While we have been very much hampered in getting the necessary funds to carry on this work, I believe that during the past year good progress has been made toward the establishing of the desired type of carriage horse anticipated in this work. At our annual sale in January 21 animals were sold, 17 of which belonged to the Station. The total receipts amounted to \$2,350.00; \$1,862.50 belongs to the Station. After this sale there were 67 animals left in the stud. We now have a good number of colts from Loyal, but there is some doubt as to whether these are up to the average in the herd. It has been decided to eliminate Loyal from the experiment this year, and I believe arrangements are already completed to put what is considered a very superior animal in his place.

*Veterinary Section.*—This Section has been endeavoring to carry on



some investigational work on Necrotic Stomatitis, Hog Cholera and the Brisket Disease, during the past year, and progress has been made. The men in this Section have to give their time so largely to instructional and extension work that they find it difficult to make the progress on their Station projects that they would make if they could give these projects more attention.

*Horticultural Section.*—Doctor Sandsten has started two projects, one on "Hardy Stock for Apples" and one on "Pear Growing in Eastern Colorado." Both are projects which will require several years to get results. Work is also being planned for a rather extensive orchard investigation on the Western Slope during the coming summer.

I believe we should be able, with the aid of a small amount of money from the State appropriation, to supplement the money that the Department will receive from the fund of State Horticulturist, to carry on some important investigations this year.

*Botanical Section.*—In this Section Professor Robbins is carrying on an investigation for the purpose of determining whether or not the Cross cabbage, which is considered a very desirable variety, can be fixed as to type. It is really an experiment in heredity and the fixing of desirable types.

Respectfully submitted,

C. P. GILLETTE,

Director.

May 23, 1914.

## The Annual Meeting of the State Board of Agriculture Dec. 9, 1914

REPORT OF THE PRESIDENT OF THE AGRICULTURAL  
COLLEGE.*To The State Board of Agriculture:*

In looking back over the biennial period which closed November 30th, we find cause for both satisfaction and disappointment, satisfaction because there are many evidences of real progress, disappointment that this progress was hampered and a limit to our growth set by the financial and industrial conditions confronting our State. The period, too, has brought us a full measure of sorrow on account of the illness of many of our number, and the loss, through death, of the vice-president of the Board of Agriculture, former Lieutenant Governor Jared L. Brush, and of Associate Professor, Dr. W. R. Thomas.

The period brought many difficult problems of administration and of adjustment. Much of the legislation passed by the General Assembly was far-reaching in its effect, both upon the work and the administration of the various institutions under your control. The new measure making the State Treasurer the custodian of all our state funds has greatly increased our work of accounting. It has been impossible during the year the act has been in effect to work out close correlation with the office of the Auditor of State so that business could be done expeditiously. On account of this lack of correlation we have not known from month to month, the condition of our funds, and we have been working under an element of uncertainty extremely trying and disappointing. The trouble-causing qualities of our system of classified appropriations have also been exemplified to the full. Confronted by a financial system, wrong in principle, and almost unworkable, the State officers of Colorado have had unusually difficult conditions to face, conditions that made caution in all administrative activities, especially those concerning the disbursement of state funds, necessary. These conditions naturally reflected themselves in the administrative problems confronting state institutions, and brought to their officers situations that made economy and efficiency in administration difficult, if not impossible, situations, in fact, that seriously endangered at times not only the work of the institutions, but the institutions themselves.

Happily, we rounded out of some of these conditions, and apparently have better results awaiting us the coming biennium. It is to be hoped that the Twentieth General Assembly will add to some of the constructive legislation passed by the Nineteenth General Assembly, and by doing away with the vicious system of classified appropriations and the adoption of a budget system for all departments of our state government, as well as for our state institutions, simplify the difficulties that now attend a proper distribution of

the state funds and make possible higher efficiency and greater economy in the expenditure of these funds when the distribution is made.

The new duties delegated to us by the Nineteenth General Assembly under the act making our Professor of Animal Husbandry ex-officio State Dairy Commissioner, and the act investing the State Board of Agriculture with the duties and powers formerly possessed by the State Board of Horticulture, and creating the State Horticulturist, who, ex-officio, is our Professor of Horticulture, and the act making provision for County Agriculturists, have been assumed; the work organized and put on a definite working basis. We have tried hard to meet the requirements of the act providing for the gathering of agricultural statistics. This act seems defective and the results are very disappointing.

Perhaps no recent legislation means more for the development of the agricultural life and resources of Colorado than the legislation providing for county agriculturists. This has been supplemented by national legislation through the passage, by the Sixty-third Congress, of the Smith-Lever Act, which received the President's signature on May 8th, last. This act provides for co-operative agricultural extension work between the Land Grant Colleges of the several states and the U. S. Department of Agriculture, and provides an appropriation of \$10,000 a year for each state, or a total of \$480,000, with an additional sum of \$600,000 for the fiscal year following, and for each year thereafter for seven years, a sum exceeding by \$500,000 that appropriated for each preceding year. For each year thereafter there is permanently appropriated the sum of \$4,100,000 in addition to the original \$480,000, provided that this increase shall be apportioned among the various states according to their agricultural population, and that the State meets this increase on a dollar for dollar basis.

Just what this extension service, maintained on a co-operative basis by the U. S. Department of Agriculture and each state, will mean for rural progress can best be understood by keeping in mind what the development of agricultural colleges, under the original land grant act, supplemented by the Experiment Station, under the Hatch and the Adams Acts, have done for the educational and material development in the Nation. A comprehensive memorandum of agreement for co-operation in extension work in agriculture and domestic science was signed by the representative officers of the U. S. Department of Agriculture, and President Edwards and myself, as Acting Director of Extension, last July. The terms of the act were accepted in behalf of the State of Colorado by Governor Ammons earlier in the same month, and the first half of the \$10,000 appropriation became available in September. The increase for the fiscal year beginning July 1, 1915, for Colorado, will be \$4,795, providing the state provides an equal amount. This, with the original \$10,000, will make a total of \$19,590 for extension service. There is a graduated increase until the fiscal year, beginning July 1, 1922, when \$42,759 will be paid by the Federal Government on condition that the state pays \$32,759, and annually thereafter. I question whether any of us fully realize or are in a position to estimate the importance of this new legislation, or the importance of this new relation between the U. S. De-

partment of Agriculture and the State of Colorado, when the State, through its General Assembly, accepts its full provision of the Smith-Lever Act.

Already the effect of this legislation, and of the co-operative arrangement with the Department of Agriculture, is manifest in all of our extension activities. We have been taken out of the condition of uncertainty imposed by the uncertainty pending the payment of special appropriations made by the State for this work, to a definite certainty made possible by the assurance that at least the \$10,000 appropriation will be available year after year.

It is to be hoped, too, that in accepting the provisions of the Smith-Lever Act, the Twentieth General Assembly will provide for an appropriation to meet the increase from year to year and put it upon a different and far more certain basis than our present third-class appropriations.

#### THE SUMMER SESSION.

Our second summer session opened June 15th. In preparing the course of study, the scope of the work was broadened materially. Instead of limiting the work to that for teachers, regular technical courses were given with credit toward a degree.

The enrollment was double that of last summer and we had a very earnest and hard-working student body. With the growth of the summer session quite a little extra teaching is added to that of our regular instruction force, but this is compensated for in part by the extra facilities we have, especially in our field laboratories during the summer. The weather conditions are ideal for good work at this time of the year and I am very hopeful for the future of this phase of our instructional activities.

#### THE BUDGET.

The budget presented unusual difficulties. It was very difficult to make out the budget for the work of instruction on account of the uncertainty of our third-class appropriations. If these were not to be paid, certain reservations had to be made out of our regular mill levy fund in order to meet the payments of interest on land indebtedness and to carry on co-operative work for which contracts were in force. The budget as finally approved by the Executive Committee, at its special meeting June 19th, provides for instruction.

Salaries .....	\$ 92,800.00
Labor .....	22,956.00
Departmental Expense .....	56,560.00
Books .....	1,120.00
Repairs .....	4,845.00
Reserve .....	5,000.00

Total.....\$183,281.00

Budget for the Experiment Station provides, under the

#### *Adams Fund*

Salaries .....	\$12,403.00
Expense .....	2,600.00

*Hatch Fund*

Salaries .....	\$11,865.00
Expense .....	2,575.00
Publications .....	

For the expenditure of the special appropriations made for investigational work, all four budgets were prepared, as we received assurances from the state officers regarding the amount that would be paid. These were based on 25 per cent, 50 per cent, and 100 per cent payments. After the work was well started, on the 100 per cent basis, we were notified that not more than 80 per cent would be paid. We found the adjustment very difficult, making it necessary to materially change the plans laid out in June.

The receipt of the Smith-Lever fund made it necessary to outline definitely the budget for extension activities. Four projects were outlined, together with two projects paid for entirely by State and College funds. The extension budget for all funds under the memorandum of co-operation for the year ending June 30, 1915, is as follows:

Smith Lever Fund .....	\$10,000.00
State Funds .....	5,000.00
U. S. Department of Agriculture Funds.....	9,004.00
College Funds .....	11,300.00
County Funds .....	13,690.00
Other funds .....	3,900.00
Total.....	\$52,894.00

## REPAIRS AND PERMANENT IMPROVEMENTS.

During the summer vacation a large amount of cleaning, repairing, painting and varnishing was performed by our repair crew, and the buildings were in first-class condition when the students and teachers returned at the opening of the college year. Many conveniences in the way of closets, cabinets, cases, tables, etc., were added to the equipment of the departments. A new office was built for the Department of Mathematics, a small but very convenient dissecting laboratory was built for the Department of Veterinary Medicine: a much needed porch was added to the Library building; eight new tennis courts were constructed on the Woman's Athletic Field, and a lot of grading and other work done on Colorado Field; two new concrete silos were built by the Animal Husbandry Department and a number of the feeding lots floored with concrete; some very material improvements were made for grain storage and for the saving of labor in the handling of grain; in co-operation with the city, water meters were installed on all our supply mains: a new cement channel for research in stream flow and for use in rating meters was constructed in connection with the Hydraulic Laboratory: three splendid steel frame greenhouses were built for the Department of Horticulture (the concrete foundations and concrete floors were put in by our own farm service bureau). We have erected also a new Soils building, containing a laboratory for work in soils in the basement and two class-rooms on the first floor. The building is 40x70. The excavation and

the concrete work in the foundation and floor was done by our farm service bureau. The building was put up under contract. Recently construction has started on a new rifle range in our pasture at the foothills, half the range, with provisions for six targets, is to be completed this fall and winter. The intention is to increase the range to twelve targets next fall. The standard equipment of the U. S. Army is being installed.

## SELECTION OF LAND FOR FOREST RESERVE.

Under Act of Congress, approved June 25, 1910, there was granted to the institution by the Congress of the United States, 1,600 acres of land in four townships lying directly west of Fort Collins, and extending from the foothills to timber line, for use in studies of forestry, high altitude crops and stock raising, under the condition that this land be selected in areas not less than forty acres nor greater than 160 acres in any one selection, and to be paid for at the rate of \$1.25 per acre. With the assistance of Supervisor H. N. Wheeler, of the Colorado National Forest, State Forester B. O. Longyear, President Edwards and Governor Ammons, selections of 1,280 acres were made last August. Three hundred and twenty acres are yet to be selected. Later on, a splendid lodge was built for use as headquarters for field work in forestry and other activities, at the so-called Pingree Park Station. This addition to our field equipment means much for the development, not only of the work in forestry, but also of alpine agriculture, and for the utilization of our high ranges and mountain parks for stock raising.

## INSTRUCTION.

The College began its thirty-sixth year of instruction September 2d. The registration shows a much higher percentage of former students returning than last year. On September 30th, the increase over the corresponding time last year was 15 per cent. The School of Agriculture began its fifth year of instruction October 4th. On account of the congestion in class-room facilities, it was considered best to limit the attendance in the school classes this year. An announcement was therefore made early that we could not take care of more than 450 students in this line of work. In August, the applications received, reached and passed the 450 mark, but during September a great many cancellations came in, so that early October registration showed only 375 in attendance. This has since crept up to 385. Altogether eighty cancellations were received. I quote from the registrar's report as follows:

*Registration to date—*

	Men.	Women.	Total.
College students .....	371	205	576
School of Agriculture students....	300	85	385
Conservatory of Music students....	16	57	73

*Students from other states—*

Collegé .....	31	7	38
School of Agriculture.....			32
Number of accredited high schools not represented in College .....			24
Number of counties not represented in college.....			16
Number of counties not represented in school.....			17

We have a total of 1,023 students on the campus. The combined enrollment of the College and of the School of Agriculture is 961, two and twenty-three hundredths times as large as it was five years ago. In both the College and the School of Agriculture classes the students got to work quickly after registration and the work has been healthy and vigorous from the start. Teachers commend the good spirit and the industry and the willingness of both student groups. The congestion in class-rooms and laboratories in some of the buildings makes the work trying, for instructor and students alike, but conditions have been remedied in so far as our building facilities permit. This has made the division of the work in some departments among more than two buildings necessary. The College students are showing greater resourcefulness and ability in their student self-government. There is a healthy, out-of-class student activity. Athletics, literary and technical societies and debating clubs are receiving much attention, the social life is wholesome, co-operation between faculty and students is on a very cordial basis.

## THE EXPERIMENT STATION.

You will see from the report of Director Gillette that the work of the Experiment Station has gone forward with vigor. This is especially true of the projects under the Hatch and the Adams funds. The payment of 80 per cent of the third-class appropriations has made possible quite a little investigation work in animal diseases, in animal nutrition, arid agriculture and insect control. Quite a large percentage of the funds was used for publications. Effective investigational work, however, is impossible when provided for with funds as uncertain of payment as our third-class appropriations. No funds at all were available for the first thirteen months of the biennial period. In February of this year 25 per cent became available. This amount was gradually increased until, all in all, 80 per cent of our appropriations have been paid. Under this system it was utterly impossible to plan definitely early enough in the season in order that effective work could be done. Under this system it is simply impossible to do this type of work efficiently and economically. Half the amount of money, if it could be counted on from year to year, so that plans could be worked out and a project undertaken with the assurance that it could be carried through to its logical conclusion, would give far better results than the present system.

The Station is called upon constantly to take on new work. Our agriculture presents many problems that, for the good of the State, should be solved early. Colorado needs more information about its soil, and the best methods of cultivation. More information is needed about the application

of water; the guarding against loss through the depredation of insect pests and plant diseases. The losses each year through animal diseases are heavy, and we should be doing much more than is now possible in this important work. Our State can make no better investment than to provide a continuing appropriation for the Experiment Station, preferably on the mill levy basis, so that this important work can be carried forward with economy and assurance.

#### EXTENSION SERVICE.

Earlier in the biennium, nearly all our extension activities had to be suspended. Such work as was done was on a co-operative basis with communities, the College paying the salaries of the workers, the communities the traveling and local expenses. With the new Smith-Lever Act, a definite organization for extension can again be built up. Fortunately, the type of organization required by the Secretary of Agriculture under the memorandum of agreement for co-operation was similar to the one we had used in the administration of our extension activities for the last four years, and immediately upon the acceptance of the provisions of the act by Governor Ammons definite provisions for starting the work could be made. Under the requirements of the Secretary of Agriculture this work had to be outlined on a project basis. These projects must have the approval of the secretary who is represented in this work by the State Relations Committee made up of three members, Dr. A. C. True, who for many years has been Director of the Office of Experiment Stations, chairman. In all six projects were submitted, four to be carried on under Smith-Lever funds, two under College and State funds. The projects under the Smith-Lever fund are: No. 1, Organization and Administration; No. 2, Agricultural Extension by Means of County Agents; No. 3, Agricultural Extension by Means of Boys' and Girls' Clubs; No. 4, Agricultural Extension by Means of Farm Specialists, Specialists in Home Economics, and Through General Lecture Service. The projects under College and State funds are: No. 5, Rural School Betterment; No. 6, Agricultural Extension Through Correspondence Service. Work under all projects is going forward.

The Executive Committee, in June, requested that I act as Acting Director of Extension until the work under the Smith-Lever Fund should be definitely organized. This new work, coming with an already crowded schedule, naturally has not received the attention its importance deserves. In July, our State leader, Mr. Frear, was taken seriously ill, his recovery has been slow and he has found it difficult to carry the full burden of his work. Mr. W. E. Vaplon was put in charge of the Boys' and Girls' Club work and the project is going forward in a very encouraging manner. In October, Miss Mary Oberlin was put in charge of the project in Rural Home Betterment, and this project is beginning to take definite form.

During the summer, Mr. C. G. Sargent, our Rural School Visitor, completed his monumental work of a survey, covering a period of eight years, of all the rural districts in our State. This has since been published in a 106-page bulletin, entitled "Rural and Village Schools of Colorado." He has also prepared a series of rural life courses offered by the College for



nonresident work. A prospectus of these has recently been published. Heavy extension schedules were also carried by the State Dairy Commissioner, State Entomologist, State Horticulturist, and the State Forester. As in former years, we furnished judges for the fair associations of the State. All in all, we sent judges to twenty-five fairs.

Under project 4 we are looking forward to a heavy schedule in institute and short course activities in co-operation with the county agriculturists. The work of the county agriculturists has met with marked favor all over the State. At present eight counties are organized, in three, Boulder, Mesa and Morgan, we are paying a part of the budget of the county agriculturists from the Smith-Lever fund. Montezuma and La Plata counties have recently voted \$1,000 each for the employment of a county agriculturist, the two counties to be organized as a unit. Delta, Lincoln and Moffat counties are looking with favor upon the plan. Just how far this work has developed is best shown by the report of State Leader Frear, which is made a part of this report.

#### FORT LEWIS SCHOOL.

Conditions at Fort Lewis have improved materially during the summer. The work of repairs and improvements included the installation of an electric lighting station, the building of a new concrete silo, extensive repairs to the shop, the dairy and the cottages, digging of a long drainage canal on the west side of the campus, the clearing of sixty acres of land, the purchase of new machinery and some extra livestock. The school opened September 28th, with an enrollment of 34. The course of study has been extended to include a course for the training of rural teachers, and Principal Snyder reports that everything is going forward nicely. We have made a special effort to protect the cash fund of the school, so that this fund may be used for carrying the institution until the new appropriations become available.

#### TELLER SCHOOL OF AGRICULTURE.

Nothing has been done at the Teller School of Agriculture except repairing damage to buildings caused by a severe windstorm. The property is rented at a nominal sum, the renter acting as caretaker. The foundations are deteriorating rapidly and unless drainage operations can be undertaken soon, many of the buildings cannot be saved. There have been some questions recently whether or not this property might not be used for other purposes than for education.

#### SPECIAL STUDIES.

I call to your attention some special studies in cost of instruction that we have carried on and recently tabulated. Our efforts are complete for three and a half years. You will notice that we have been able to crowd down the cost per recitation hour, but I question whether this can be done much further without also decreasing the efficiency of instruction.

#### FINANCES.

You will see from the report of the secretary that we have lived within our income for the biennium. It has required careful planning and grinding economy. We had to avoid doing things that seemed necessary, and get

along without equipment that was badly needed. We have done the best possible under given conditions and feel that we can give a good account of the money used.

## LEGISLATION.

In looking forward to the convening of the Twentieth General Assembly we cannot repress the hope that the finances of the State will be in such a condition that some provision can be made for granting us the increase in the mill levy provided by the last General Assembly. Our need for buildings has become so acute that we must have relief if the institution is to continue to grow. We hope this need can be provided in the form of increasing the mill levy or in a continuing appropriation. Perhaps a levy limited to a period of years. I have already outlined the needs of the Experiment Station and the importance of providing for a full acceptance of the terms of the Smith-Lever Act. A mill levy for the Fort Lewis School would go far toward securing greater efficiency and better service at this institution. Special legislation is also needed, so that the land grant of the college and the endowment funds can be better administered. The income from the land grant has steadily decreased. Fifteen years ago we received about \$18,000 a year from the Land Grant and from the Endowment Funds. This has dropped to \$9,000 a year and unless provisions are made so that the Endowment Fund can be invested according to the terms of the Federal Act there is grave danger that we and the State will be called to task. Already the interest loss on this fund totals over \$40,000. The situation is serious and requires immediate attention.

## APPRECIATION.

The work of the summer was made possible by the cordial co-operation of the members of the Executive Committee and of every worker at the institution. Work was heavy, the problems many, but it was a pleasure to see these receive at least a partial solution.

Respectfully submitted,

CHAS. A. LORY,

President.

December 9, 1913.

## COLORADO EXPERIMENT STATION.

## DIRECTOR'S REPORT

*To the President:*

I am presenting herewith a brief annual report of the work of the Agricultural Experiment Station for the year just closing. The financial statement is prepared for the government fiscal year closing June 30, 1914, but the rest of the report covers the work of the station during the State fiscal year closing November 30, 1914.

While the funds available for experimental work during the year have been meager, I feel that the results are all that could be reasonably expected. The appropriations made by the Nineteenth General Assembly have been paid in larger proportion (80 per cent) than those for the previous biennial period, but no money was received until after the close of the first fiscal year; in fact, we have had only eleven months in which to spend the State appropriation, and have not known how much of the appropriation would become available until the last month of the year.

I have called attention in my former reports to the great need of something being done to enable the Station to plan more definitely the experimental work that is to be carried on from year to year. A condition of uncertainty makes it impossible to use the money to good advantage. We could get along with less money and do better work if we could know a year or two in advance what funds we are to have for the support of our experiments. I very much hope that a bill may be passed by the next General Assembly that will give the Station a continuing appropriation, or make the appropriation available until one year, at least, after the biennial period for which the appropriation is made. This would enable the Station to plan its work economically and save money to carry the work from one biennial period until money is made available in the next period.

I am glad to report that there has been very few important changes in the station staff during the year. This is a matter of much importance in Station work. Every change in the head of a section means a heavy loss in the progress of the work. We lose a year or more of the work of the man who goes, and it takes a year or more for a new man to become adjusted in his new relations. The co-operative work that has been carried on in our irrigation investigations with the Office of Experiment Stations, and in the horse breeding work with the Bureau of Animal Industry, have progressed very satisfactorily, and I hope both lines of co-operation may be continued. There have been other offers of co-operation on the part of men connected with the Department of Agriculture, and I hope that we may be able, during the next year, to take up at least two or three additional lines.

I am also pleased with the progress made by the Chemical Section in the work undertaken by Dr. Headden to determine the factors that affect the qualities of wheat, although it will undoubtedly require one or two years yet to complete the lines of work already undertaken in this project.

The work of the Bacteriological Section on raspberry spur blight, and bacteriological studies on alkali soils; also of the Agronomy Section on the

correlation of characters in grain, have made excellent progress during the year. The work carried on in the Veterinary Section to determine the real cause of the new malady known as "brisket disease," will no doubt be of much interest to the stockmen of the high altitudes and enable them to save much of the loss they would otherwise sustain.

The co-operative work with the Costilla Estates Development Company came to a close with the gathering of the crops this year. A bulletin has been prepared covering this work and is ready for publication as soon as funds become available. I believe the results obtained warranted the co-operation, as the Station has been to no expense outside of the time required to direct the work on the part of Professor Keyser and Mr. Cone.

We have received some financial assistance this year in conducting the brisket disease investigation from the commissioners of Jefferson county, for which we are very thankful. Without this assistance we would hardly have been able to undertake the investigation at all. A preliminary report upon the work has been prepared and will be issued at once as a Station bulletin.

A considerable number of important new projects have been presented for consideration by different members of the Station staff, which I have not thought it advisable to approve, because we do not have sufficient funds or equipment to carry more work than our men have already undertaken. It has been my policy to try to support fairly well the lines of work that we attempt to carry on, so that results may be reached in a reasonable length of time. This necessitates the rejection of many projects that I should otherwise like to see undertaken.

While we have been able to publish a larger number of bulletins this year than a year ago, we are still unable to print as many popular bulletins as we should have for the information of the farmers. At the present time there are four or five bulletin manuscripts ready for the printer which we are unable to publish because there is no money available for the purpose. Any one of these bulletins would be of great value to the farming community if it could be published and distributed.

The publications for the year are as follows:

#### BULLETINS.

193—Nitrifying Efficiency of Certain Colorado Soils, by Walter G. Sackett.

194—Frictional Resistance in Artificial Waterways, by V. M. Cone, R. E. Trimble and P. S. Jones.

195—Small Fruits for Colorado, by E. P. Sandsten.

196—Some Soil Changes Produced by Micro-Organisms, by Walter G. Sackett.

197—Hog Cholera Control, by Geo. H. Glover.

Necrotic Stomatitis, by I. E. Newsom.

198—The Onion in Colorado, by E. R. Bennett.

199—Vegetable Growing in Colorado—Hot Beds and Cold Frames, by R. A. McGinty.

Common Insects of the Garden, by C. P. Gillette.

200—Silos and Silage in Colorado, by H. E. Dvorachek.

201—Some Colorado Mushrooms, by B. O. Longyear.

202—Handling and Testing of Milk and Cream, by R. McCann.

203—Drainage of Irrigated Lands, by V. M. Cone.

The Station projects for the most part are the same as one year ago, a few old projects have been completed and a number of new ones added. I am giving below a list of Station projects that have received some attention at the hands of the Station force during the past year. Those that are marked with an asterisk were completed during the year.

STATION PROJECTS DURING THE YEAR.

*Entomological Section—*

- Plant Louse Investigations—Adams fund.
- Codling Moth Investigations—Hatch and Special funds.
- Syrphus Flies in Relation to Plant Lice, Hatch fund.
- Control of Insects by Egg Treatment—Hatch and Special funds.
- \*Life Habits of Lady Beetles—Hatch and Special funds.

*Chemical Section—*

- A Study to Determine the Factors Causing the Softening of Wheat—Adams fund.

*Veterinary Section—*

- Brisket Disease—Hatch and Special funds.
- Sore Mouth Disease—Hatch and Special funds.
- Infectious Anemia—Hatch and Special funds.
- Disease Investigations, General—Special fund.

*Bacteriological Section—*

- A Bacteriological Study of Alkali Soils—Adams fund.
- \*Nitrifying Efficiency of Some Colorado Soils—Adams fund.
- \*Spur Blight of the Raspberry—Hatch and Adams funds.
- Value of Certain Carbon Compounds as a Source of Energy for Azotobacter—Adams fund.
- Soil Algae—Hatch fund.

*Agronomy Section—*

- Correlation of Characters in Grain—Hatch fund.
- Alfalfa Breeding—Hatch fund.
- Methods in Selection Breeding—Special fund.
- High Altitude Crops—Special fund.
- Feed Crop Improvement—Special fund.
- Rotation of Crops for Colorado—Special fund.

*Horse Investigations—*

- To Establish an American Breed of Carriage Horse.—State appropriation in co-operation with Bureau of Animal Industry.

*Animal Husbandry—*

- Ration Experiments with Steers.—Special fund.

*Irrigation and Engineering Section—*

- Duty of Water Upon the College Farm.—Special fund.
- Sub-irrigation Investigations.—Special fund.

*Horticultural Section—*

- Hardy Stock for Apples.—Hatch and Special funds.

\*Completed.

Pear Growing in Eastern Colorado.—Hatch and Special funds.  
Management of Nitre Soils.—Hatch and Special funds.

*Irrigation Investigation Section—*

Experiments with Flow of Water.—Adams fund.  
Drainage of Farm Crops and Drainage Factors.—Adams.  
Water Requirements of Crops.—Adams.

\*Coefficient of Friction.—Adams.

Weir Construction.—Adams.  
Current Meters.—Adams.  
Evaporation Experiment.—Hatch.

Concrete.—Hatch.  
Tank Experiments.—Hatch.  
General Meteorology.—Hatch.  
Pump Irrigation.—Hatch.  
Seepage.—Hatch.

Following are brief reports of the work of the year from the Experiment Station Sections.

Very respectfully submitted,

C. P. GILLETTE,

Director.

## REPORT OF FORT LEWIS SCHOOL OF AGRICULTURE AND MECHANIC ARTS.

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### *To the President:*

During the school year ending April 4th, last, we enrolled seventeen boys and graduated two—Orin Reeder, who is now attending C. A. C., and Robert McCulloch, who is proving up on a homestead. Our small enrollment seems to have been due to several causes, among which were poor crops; it was late in the summer before it was known that the school would continue; discontinuing the girls' course caused people to think the school was about to discontinue; some of the pupils thought the discipline too rigid and there were parents who did not consider it rigid enough! We have always enrolled several large boys whose elementary preparation was not at all sufficient and last year was not an exception.

President Lory was present at our commencement exercises and gave us an inspiring and enjoyable address.

Our spring work began late because the spring was late and because we did not know the extent to which we could carry on farm work. A fine black draft mare was purchased in April and the addition to our horsepower made it possible to plow about twenty-five acres of the old alfalfa fields, which we seeded to oats. Ditches were cleaned, potatoes and corn were planted and some garden was made. Several acres of ground were sown to alfalfa.

Soon after the principal returned from Fort Collins, Professor Rankin and his assistants came to Fort Lewis and began installing our electric light plant. A brick building, 15 1-2 x 11 x 10 2-3 feet was added to the power house and an 18-inch Pelton water wheel and a 15 k. w. alternator were placed within. The arrangement is such that the dynamo may be driven with water, or steam or both. We feel that we have a very satisfactory light and power plant. All the poles were secured on the Fort Lewis land.

Two small porches were built onto the principal's residence and the buidings were painted. The interior of one hall was painted and one room was papered. The new room in the power house was plastered and all new woodwork painted. Cement floors were placed in the bathroom in the boys' dormitory, many of the rooms were plastered and a number of the rooms and halls were papered. The chimneys on several of the buildings were repaired, a new chimney was built in the forge room to take care of the smoke from the forges, rooms in the south residence were plastered and papered and prepared for the girls' use. A concrete floor and three new windows

were placed in the dairy building. A new greenhouse was built upon a concrete foundation. Steam heat, water and the necessary benches have been installed. Many changes and repairs have been made on the boilers, pumps, and heating plants. New soil pipes have been placed where needed, new air valves have been placed on radiators, the used steam from the engine now passes into the heating plant. The asbestos plaster placed on the office and school house boilers is reducing our fuel bill. A concrete silo of nearly one hundred tons capacity was built. All of the corn grown was placed in the silo. Stockyards and sheds have been prepared for the registered stock and the old blacksmith shop has been converted into a storeroom for the chopped oats. A very well constructed concrete headgate was built at the point at which the water for the reservoir is taken from the river. Much new apparatus has been purchased for the laboratories and a new plow, cultivator, potato digger, large cream separator, self binder, manure spreader, feed grinder, harness and electric motor have been purchased for the farm. More than twenty-five hundred dollars' worth of livestock has been purchased recently.

A moving picture machine was purchased for entertainment and instructional purposes.

The corn crop was sufficient to fill the silo about half full. We shall need to plant about twenty-five acres next year. We grew much more hay and oats this year than we did last, but in view of the fact that we have a greater number of sheep and cattle than we had last year I think it will be necessary to buy some hay. The oats were cut rather green and more than half were cut with the ensilage cutter and placed in the old shop. The oats that were stacked will be cut later if we keep the ensilage cutter. I do not believe that it is a good plan to drive the ensilage cutter with the car. It seems hard on the engine.

We grew more than nine tons of potatoes on less than two acres of land. We shall have all of the potatoes we shall need—possibly more.

The pastures were rented during the summer for \$800. The west pasture has been rented for next year at \$425 and we have an offer of \$400 on the east pasture, but may need it ourselves.

Nearly fifty acres of our north pasture have been cleared and should be fenced and plowed and seeded to alfalfa in the spring. The swamps west of the residences are being drained by a ditch that will be nearly 1,700 feet long. More than 1,000 feet of the ditch have been dug. Into the ditch we shall place a plank drain covered with stones.

We are having all the fall plowing possible done. We hope to begin plowing the new land soon. Our fine two-year-old colt died a short time ago and we shall not have as much horsepower in the spring as we expected to have.

Our school opened on September 28th, with Miss Wilson teaching English and domestic science and art; Mr. Klinefelter, shopwork, physics and chemistry and later on algebra; Mr. Sullivan, field crops, diseases of farm animals, stock judging, soils and horticulture; and Mr. Snyder, arithmetic.



Conditions for school and farm work and for living are so much superior to anything that we have known before that we are delighted with Fort Lewis. There are many improvements yet to make, but we have made a fine beginning.

During the year we have held a number of extension meetings that have been well attended.

Yours very respectfully,

G. F. SNYDER,

Principal.

November 30, 1914.

The old blacksmith shop has been converted for the chopped oats. A very well constructed concrete headbox was placed at the point at which the water for the reservoir is taken from the river. A new separator has been purchased for the laboratory and a new plow, cultivator, potato digger, large cream separator, soil binder, manure spreader, feed grinder, harness and electric motor have been purchased for the farm. More than twenty-five hundred dollars worth of livestock has been purchased recently.

A moving picture machine was purchased for entertainment and for educational purposes.

The corn crop was sufficient to fill the silo about half full. We shall try to plant about twenty-five acres next year. We grew much more hay and oats this year than we did last, but in view of the fact that we have a greater number of sheep and cattle than we had last year I think it will be necessary to buy some hay. The oats were cut rather green and more than half went on with the ensilage cutter and placed in the silo. The ones that were stacked will be cut later if we keep the ensilage cutter. I do not believe that it is a good plan to drive the ensilage cutter with the one that comes hard on the engine.

We grew more than nine tons of potatoes or less than two acres of land. We shall have all of the potatoes we shall need—possibly more.

The pastures were rented during the summer for \$200. The west pasture has been rented for next year at \$425 and we have an offer of \$400 on the east pasture, but may need it ourselves.

Nearly five acres of our north pasture have been cleared and should be fenced and plowed and seeded to alfalfa in the spring. The swamps west of the residence are being drained by a ditch that will be nearly 1,700 feet long. More than 1,000 feet of the ditch have been dug. Into the ditch we shall place a plank drain covered with stones.

We are having all the fall plowing possible done. We hope to begin plowing the new land soon. Our two-year-old colt died a short time ago and we shall not have as much horsepower in the spring as we expected to have.

The school opened on September 23rd with Miss Wilson teaching first and second grades and Mrs. M. K. Wheeler, shopwork, physics and chemistry and later on algebra; Mr. Sullivan, field crops, diseases of farm animals, stock raising, soils and horticulture; and Mr. Snyder, arithmetic.

## REPORT OF FARM MANAGEMENT FIELD STUDIES AND DEMONSTRATIONS.

U. S. DEPARTMENT OF AGRICULTURE—COLORADO AGRICULTURAL  
COLLEGE CO-OPERATING.

To the Director of Extension:

I submit herewith a report on the Farmers' Co-operative Demonstration Work for Colorado for the calendar year ending December 31, 1914.

No mention is made in this report of finances since that matter is fully covered in the reports made to cover the fiscal years ending June 30th.

Table I. shows in general my field activities for the year.

TABLE I.  
FIELD ACTIVITIES 1914.

Date	Agents Visited	Demo. Farms Visited	Days Worked Office	Miles Traveled.		
				Road	Rail	Auto Team
December 29, 1913.....	2	..	19	11	2,242	..
January 31, 1914.....	6	..	2	22	1,559	311
February 2-28, 1914.....	2	..	20	4	310	40
March 2-28, 1914.....	4	1	9	15	1,738	218
March 30-April 25, 1914.....	2	..	27	3	238	..
April 27-May 30, 1914.....	4	2	10	14	913	475
June 1-27, 1914.....	3	..	1	11	1,706	75
June 28-August 1, 1914.....	..	..	On Leave.	..	..	..
August 2-August 29, 1914.....	4	..	19	5	526	..
August 30-September 26, 1914.....	2	..	21	3	252	65
September 27-October 31, 1914.....	3	..	17	8	823	60
November 1-28, 1914.....	..	..	13½	11½	2,306	..
November 29-December 26, 1914.....	..	..	..	..	..	..
Totals .....	32	3	158½	107½	12,618	1,244
						20

Table II. shows my attendance at meetings during the year. I spoke on the average at least once or more at every meeting I attended.

TABLE II.  
MEETINGS ATTENDED.

Month.	No. of Meetings	Attend- ance
January, 1914 .....	5	515
February, 1914 .....	19	3,448
March, 1914 .....	4	..
April, 1914 .....	20	1,488
May, 1914 .....	..	..
June, 1914 .....	6	584
July, 1914 .....	1	100
August-October, 1914 .....	..	..
November, 1914 .....	1	200
December, 1914 .....	1	150
Totals.....	53	6,485

### COUNTY AGRICULTURISTS.

At the close of the last calendar year (1913) we had four county agriculturists in the State, in the counties of Logan, El Paso, Pueblo, and San Luis Valley. We now have eight, the new men being in the counties of Mesa, Boulder, Morgan and Prowers.

Montezuma and La Plata counties, in the extreme southwest corner of the State, have voted money and signed a project agreement to co-operate

with us in the employment of a county agriculturist. This man will likely be employed during the coming month.

Delta county has appropriated money for a county agriculturist, but since our money has all been allotted, no progress is being made towards securing a man. We shall likely co-operate with them beginning with July, 1915.

The counties of Lincoln, Grant, Routt and Moffat are actively interested in securing county agriculturists.

It was our hope that either Elbert or Kit Carson county would co-operate with Lincoln county, which has acted favorably on the employment of a man. However, Elbert county rejected the proposal and Kit Carson county passed it over to their January meeting.

As far as we are directly concerned, the matter might as well rest until the beginning of the new fiscal year, since we shall not be in a position to assist financially until at least that time.

A new memorandum of understanding has been signed covering our work in the five counties of the San Luis Valley,, under which the new county of Alamosa becomes a party to the agreement and assumes one-fifth of the local financial burden, and the other four counties reduce their contributions accordingly, making the total liability of the five counties towards the support of the work \$1,600 a year, in place of the \$1,200 of the first memorandum, which amount has later been raised by the counties to \$1,600 a year, the resolutions embodying such increase being made a part of the memorandum. It took from the latter part of June until the middle of December to get these memoranda adopted by the counties because the commissioners of the counties were very slow to act on the matter unless they were pushed and urged continually. This matter was of necessity left in the hands of the local interested body, the San Luis Valley Commerce Club, which did the work entirely through its secretary, Mr. George N. Seeley.

A new memorandum of understanding has been adopted covering the work in Boulder county, under which the Agricultural College pays \$1,000 a year of Smith-Lever money towards the expenses of the county agriculturist.

New project agreements have been prepared for Morgan and Mesa counties according to the new project form under which the Agricultural College agrees to pay \$1,000 a year of Smith-Lever money towards the expenses of the county agriculturist in each of these counties.

A new project agreement has been written for Logan county. This agreement was written according to the old form, but before it was signed the new form was prepared, hence it was rewritten, occasioning some delay in getting it signed.

#### STATE LEADER'S PROJECTS.

With the reorganization of the work to conform to the provisions laid down as the result of the Smith-Lever law, the State Leader's office has become one of the several divisions of the Extension Division of the Colorado Agricultural College, and the work of the office is carried on under Project No. 2.

The work of Project 2 is subdivided into minor projects, each county with which we are co-operating having a project number as follows:

2-A.....	State Leader's Office (Administration).
2-B.....	Morgan county.
2-C.....	Boulder county.
2-D.....	Mesa county.
2-E.....	El Paso county.
2-F.....	Logan county.
2-G.....	San Luis Valley.
2-H.....	Pueblo county.
2-I.....	Prowers county.
2-J.....	La Plata and Montezuma counties.

#### BOYS' AND GIRLS' CLUBS.

Our most successful line of work for the State seems to have been the boys' and girls' club work. This is a line that seems to appeal to the local people. It usually brings us the backing, assistance and co-operation of the school authorities, especially the County Superintendents of Schools.

We have been particularly fortunate in having the support of most of the local business men and many of the leading farmers of the counties, who have manifested their interest by donating liberal prizes, and in assisting in the work in other ways.

Since the latter part of the summer, I have given the club work less attention because its administration has been placed in charge of Mr. W. E. Vaplon, who has been appointed State Club Leader. Mr. Vaplon is laying plans which promise to make the club work even more successful next year than it has been this year.

#### FARMERS' EXCURSIONS.

The farmers' excursion has proven to be a valuable way in which to enlist the interest and support of the farmers and business men. It is also one of our best ways of driving home some particular line of work which the agent may be promoting. Getting the farmers and business men together in automobiles has assisted materially in breaking down the supposed barrier between them and gets them to thinking about and discussing freely some of the problems of the farmer.

We have found the excursion one of our best means of developing silo building and of encouraging better farming in general. In this work we make good use of the farmers' whose farms are visited.

#### SILLO CAMPAIGNS.

Silo building has proven to be our most successful single line of development work. This work has been carried on principally by means of farmers' excursions and farmers' picnics, where everybody gets together and watches the actual work in building or in filling the silo or in feeding the silage.

## HOG CHOLERA.

Four of our county men have had to give some considerable attention to controlling hog cholera in their counties. All seem to have been very successful with this work. It is unfortunate that in controlling this disease we do not have a county agriculturist in every county, because patrolled counties are continually becoming infected from adjoining counties where no concerted effort is made to stamp out the disease.

## SPRAYING DEMONSTRATIONS.

Spraying demonstrations carried on in Boulder county gave very excellent results, not so much because every farmer got good results from his spraying, but because those farmers who didn't follow instructions have firmly impressed on their minds the value of spraying and of doing it right, when they compare their orchards with the farmers who followed instructions.

## FIELD DEMONSTRATIONS.

With few exceptions we seem to have gotten less satisfactory results from our field demonstration work than from any other single line tried out. This is due partly to the very great diversity of conditions existing in many of our counties, making it impossible to find single lines of field demonstration which will succeed over the entire counties or even over large areas of the counties.

Furthermore, some of the most important problems confronting our farmers are still baffling the best scientists of the department and of the College and the county agent going into the county is assuming great risk of his reputation if he attempts to demonstrate methods that appear to be successful in other states, even though it may appear on the surface that the demonstrations would be quite easy. Nevertheless, many of them do not work out that way in this State.

## CO-OPERATIVE ASSOCIATIONS.

The fostering of co-operative associations has not proven very successful with us, since the only co-operative association organized with our help failed on account of the manager, who was selected locally very much against the advice of our county agent.

No attempt has been made to include in this report detailed data concerning the activities of our county agriculturists for the year, since such data is included in their reports, copies of which are furnished the office, and an attempt to tabulate such data here will only serve to delay the forwarding of this report.

Respectfully submitted,

D. W. FREAR,

*State Leader for Colorado, and Agriculturist,*

*U. S. Department of Agriculture.*

December 31, 1914.

SUMMARY OF THE WORK OF THE STATE BOARD OF  
AGRICULTURE FOR THE BIENNIAL PERIOD

1913-1914.

In summing up the work of the biennial period, just closing, I feel that the institutions under the control of The State Board of Agriculture have done well, and that the people of the State have reason to feel satisfied with the results accomplished. Perhaps the best evidence that the people are satisfied lies in the fact that the educational work is growing rapidly, and that more and more are asking for co-operation through the extension service, and for assistance from the Agricultural Experiment Station.

The first year of the period was marked by extreme financial difficulties. I question whether the people generally had any idea how serious this was, or what desperate efforts were made to keep the work going in spite of this condition. Even then, the Extension Service had to be almost discontinued and the Experiment Station lost every one of its field men. The Board was confronted with the difficult task of doing more work with fewer workers and greatly reduced funds.

Conditions were much better the second year, but it was impossible in this short time to build up an efficient corps of field workers to take the places of the one we had lost. The Board feels that it has about reached the limit in the work that can be done with the funds now available, and the conditions governing their expenditure. Work has come to the Board in rapidly-increasing volume. The last General Assembly invested it with the powers of the State Board of Horticulture, but reduced the funds to less than half those formerly available to the State Board of Horticulture. The year of 1914 has been an especially trying one to the orchardists of the State. The Board found itself unable to do the work called for. The Board was also invested with the powers of a State Dairy Commission. The funds appropriated were only about one-fourth of those formerly available. An immense amount of work was necessary, and in order to look after the most imperative needs, extra financial support had to be given to the work of the State Dairy Commissioner.

The Board has earnestly tried to carry out the various duties assigned to it, but it is unanimous in its belief that if the State, through its General Assembly, delegates special lines of state service to it, adequate provisions and appropriations should be made to support this work. Neither is it good business, nor is it just to place the Board in the position of being held responsible for certain work and not to give it funds for doing it, forcing it in fact to support the work with its educational funds.

The law for gathering Agricultural Statistics by the county assessors, as amended by the Nineteenth General Assembly, is very unsatisfactory. Returns from only ten county assessors were received, and there was no

provision made for publishing these records. If the State desires this information, the law will have to be put in workable form.

I am greatly concerned over the investment of the Agricultural College land-grant fund. The Morrill Act of 1862, which was accepted in full by our General Assembly, provides that this fund shall be invested to return not less than five per cent net. This has not been done, because, in accepting the terms of the grant, no definite provision was made for investing the fund. Provision *must be made* for complying with the terms of the act of Congress.

I trust that provision may be made for more buildings on the campus of the Agricultural College. I feel that the limit in congestion has been reached. We have lived within our income during the period, but it has been done by grinding economy, and by withholding for the future work that should have been done for the benefit of the agricultural industry of the State. Good business, good service, and fairness to our workers and students, and to the people of the State, will be promoted by giving the Board maintenance funds and appropriations that it can count on with certainty, since if the appropriations are to be paid, it makes no difference to the State whether they be paid through a mill levy or through special appropriations, and the advantages of the mill levy are so great, in comparison with the special appropriation plan, that the Board strongly recommends this method of supporting its various lines of activity.

I trust that the Twentieth General Assembly can see its way clear to increase the mill levy for the Agricultural College, and to provide a levy for the Agricultural Experiment Station, for our Extension Service, and for the Fort Lewis School.

Respectfully submitted,

A. A. EDWARDS, *President.*

*The State Board of Agriculture of Colorado.*

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