Report of the President

...of the...

South Dakota

Agricultural College

And the Director of the

Agricultural Experiment Station

For the Year Ended June 30, 1897.

...ed by Act of Congress August 30, 1890.

Press Print, Brookings, S. D.
Changes In Courses of Instruction.

All courses have been carefully revised during the year and new ones added. The following indicate the most important of these changes:

1. A Sub-Freshman year is provided with two terms' work in Physics, one in Botany and includes Elementary Algebra, Plane Geometry and Rhetoric, thus raising the standard of admission to Freshman about one year.

2. Chemistry, Botany and Elementary Geology are now studied in the Freshman year, thus laying a good foundation for consideration of technical Agriculture early in the course.

3. Extensive Electives are offered in the Junior and Senior years, enabling students to specialize in Agriculture, Agricultural Engineering, Architecture, Electrical, Hydraulic and Sanitary Engineering, and to pursue advanced work in Art, Domestic Science, Music, Botany, Chemistry, Physics, Zoology, Materia Medica and Shorthand.

4. German and Latin are offered for two years and may be carried farther.

5. Music is provided and may be pursued exclusively or in connection with other studies.

6. The course in Pharmacy is greatly strengthened, advanced work offered for two years after Druggist's Course and leads up to B. S. Degree.

7. The short course in Agriculture is extended to twelve weeks and is enriched by shop work and other subjects not heretofore offered.

8. The Business and Amanuensis courses are both strengthened and each limited to one year.
Purpose, Structural Character and Cost of New Buildings and Additions to Buildings.

1. A new building has been erected for Mechanical Laboratory. This is a two story brick 90x40. First floor contains office, class-room, machine and dynamo room. Second floor is given up to drawing room and carpentry shop. Cost of the building is $5,000.00.

2. One building has been entirely remodeled and is devoted to Physics, Industrial Art and Domestic Science. All these departments have been furnished with excellent accommodations for their respective needs.

3. Another building has been remodeled and fitted up for Agricultural Experiment work. It contains Soil Physics and Chemical Laboratories. Also Laboratories for Animal and Plant Biological work, each one occupying an entire floor.

4. Other changes in buildings have also been made. An electric light plant has been installed. The Library moved to central building and given ample room for care and use of books and periodicals. An entire floor has been given up to Chemistry and Pharmacy Departments. These are well provided with facilities for work. The Chemical Laboratory accommodates 80 students at one time and is a model of convenience in every particular.

Receipts For and During the Year Ended June 30, 1897.

1. Balance on hand July 1, 1896, over and above all indebtedness (excluding funded debt, if any) ........................................ $ 332 78

2. State aid: (a) Income from endowment granted by State ...........................................
   (b) Appropriation for current expenses ........................................... 5,200
   (c) Appropriations for building or for other special purposes ....................... 700

3. Federal aid: (a) Income from land grant, act of July 2, 1862 ...................... 15,000
   (b) For experiment stations, act of March 2, 1887 ..................................... 30, 1890 ........................................... 22,000
   (c) Additional endowment act of August ........................................... 8,038 12

4. Fees and all other sources ..........................................................

Total ........................................... 51,270 90
Expenditures For and During the Year Ended June 30, 1897.

(Not necessarily a balance sheet as compared with Division above.)

1. Instruction in the subjects specified in section 1, act of August 30, 1890*.................. $25,440 50
2. Instruction in all other subjects, if any, not mentioned in Question 1 of this series....
3. Administrative expenses (President’s, Secretary’s, Treasurer’s, Librarian’s salary, clerical service, fuel, light, etc.)†............. 1,500
4. Experiment Station........................................ 15,000

Total .................................. 41,949 59

*The answer to this question will include not only the amount received under the act of August 30, 1890, (“Morrill Act”), but also all amounts that are expended for the subjects specified in that act, irrespective of the character of the funds the amounts may be drawn from, (State, tuition fees, or endowment, etc.)

†It may be convenient for many institutions to answer 2 and 3 as one question. Cost of new buildings is given under Division I.

Property, Year Ended June 30, 1897.

Value of all buildings, $85,000.00; of other equipment, $8,300.00. Value of above property (an estimate only is expected) not used for instruction in the subjects specified in section 1 of act of August 30, 1890, Buildings, $...........; of other equipment, $ ............ Total number of acres, 400; acres under cultivation, 200; acres used for experiments, 80; value of farm lands, $9,250; amount of all endowment funds, $........... Number of bound volumes, June 30, 1897, 5,815; pamphlets, 9,215.

Faculty During Year Ended June 30, 1897.

<table>
<thead>
<tr>
<th>MALE</th>
<th>FEMALE</th>
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<tbody>
<tr>
<td>1. College of Agriculture and Mechanic Arts:</td>
<td></td>
</tr>
<tr>
<td>(a) Preparatory classes ..............</td>
<td>5</td>
</tr>
<tr>
<td>(b) Collegiate and special classes...</td>
<td>12 4</td>
</tr>
<tr>
<td>(c) Total, counting none twice.......</td>
<td>17 4</td>
</tr>
<tr>
<td>2. Number in all other departments (excepting duplicates)</td>
<td></td>
</tr>
<tr>
<td>3. Number of staff of Experiment Station ...</td>
<td>11</td>
</tr>
</tbody>
</table>
Students During the Year Ended June 30, 1897.

1. Colleges of Agriculture and Mechanic Arts:
   (a) Preparatory classes ............... 45 19
   (b) Collegiate and special classes .... 183 71
   (c) Post Graduate courses ............ 3

   Total, counting none twice 231 90

2. Number in all other departments ..........

3. Number of students that pursued courses
   in agriculture, 38; mechanical engineering, 45; civil engineering, . . . ; electrical engineering, . . . ; mining engineering, . . . ; architecture, . . . ; household economy, 90; veterinary science, . . . ; military tactics, 165. (It is not expected that the sum of these figures will equal the number of students given above.)

4. What degrees and how many of each kind
   were conferred in 1896-'97?
   On men, B. S., 15; M. S., 1; Ph. G., 2.
   On women, B. S., 7.

5. What and how many honorary degrees
   were conferred in 1896-'97?
   None.

(Signed:) JOHN W. HESTON,
(Title of Officer Reporting:) President.

(Date:) November 1, 1897.
JOHN W. HESTON,
President of the South Dakota Agricultural College,

SIR:—

I have the honor herewith to submit the Report of the United States Experiment Station of South Dakota for the fiscal year of 1896 and 1897.

Respectfully,

JAS. H. SHEPARD,
Director.
Report of the Director.

It gives me pleasure to report that the year just closed has been one of unprecedented prosperity for this Station. The utmost harmony has prevailed amongst the officers and workers in the Experiment Station Staff, and correspondingly good work has been accomplished. There has been no change of workers in any of the departments and good progress therefore has been achieved in all of them.

Publications.


The Departments.

Agricultural Department.

The work in this department follows closely the details enumerated in the Ninth Annual Report, which has been carried through successfully.

One hundred twenty-four (124) permanent one-tenth acre plats have been established. Of these 70 are devoted to rotation of crops, representing 22 different systems of rotation,
24 were devoted to manurial experiments on wheat. Ten were devoted to moisture accurately determined in the laboratory. The remaining 20 plots were sown to sugar beets and forage crops.

Forty-one varieties of millet, 8 of soja beans and 18 of sorghum were raised in co-operation with the division of Agrostology.

Ten varieties of field corn and 18 varieties of potatoes were grown in larger quantities.

About 80 samples of soil from different parts of the State have been gathered by the Assistant Agriculturist, personally. Mechanical and Chemical analysis of these samples will be made.

Quite complete Meteorological records have been kept.

**Horticultural Department.**

The work completed during the past year agrees closely with the outline in the Ninth Annual Report. The fruit experience of the State was collected. The work in Subsoiling was completed and a large number of plum and apple seeds were obtained from hardy varieties growing in South Dakota, Iowa and Minnesota. The seeds of about nine (9) barrels of hardy apples were planted on the Station grounds.

A large importation of hardy fruit, shade and ornamental trees, shrubs and plants was made from the dryer regions of northern Europe and Asia. These importations included a large number of new currants and a few gooseberries.

About eighty (80) bundles of trees, hedge plants and cuttings were distributed to various parts of the State. The work in cross pollenization has been continued with the hardiest varieties of apples in the Station orchard. Much work has been done with the sand cherry.

Early in June Prof. Hanson was appointed Special Agent for the United States Department of Agriculture and sent to Russia and Siberia for the purpose of collecting hardy seeds, plants and cuttings promising usefulness in the North-west.

**Chemical Department.**

The work in this department has been a continuation of the analysis of forage plants adapted to South Dakota. The
entire list mentioned in the Ninth Annual Report has been analyzed. This work will be continued as rapidly as the department of Botany can furnish new samples.

Chemical analysis of soils from various parts of the State is now well under way.

In the spring of 1897, this department commenced a cooperative test, at the request of the Secretary of Agriculture, Hon. James Wilson, with Sugar Beets in the State of South Dakota. Five hundred pounds of seed were distributed to about a thousand farmers living in nearly every county in the State.

**Department of Botany and Entomology.**

The work of this department has been mainly along the line of forage plants and injurious insects. A grass garden has been installed, consisting of a hundred plats, 14x16 feet. 70 of these were devoted to the grass family, and 30 to other forage plants. A collecting expedition has been successfully carried out, covering the Big Stone Lake region, and about 20 samples of forage plants have been collected for analysis. The Herbarium has been increased by about 400 specimens of economic plants and fungi.

This department has done considerable work in sections infected by grasshoppers and the green plant bug, Cleoderma Uhleri, a species that has hitherto been considered harmless. Much aid and advice have been given farmers for the suppression of insect pests.

**Department of Zoology and Bacteriology.**

The work of this department has been mainly along the line of bacteria and parasites detrimental to farm animals.

The recent addition of bacteriology to this department has necessitated the fitting up of a laboratory which is now completed. Earlier in the year this department did much good work in assisting farmers to resist outbreaks of the army worm.

The inspection of the College herd for tuberculosis was under charge of this department.
Financial Statement.

Outside of the United States appropriation this State has furnished the Station with heat, light and water to the value of about Seven Hundred Dollars ($700). From farm products from the Station plats $466.05 have been realized, of which $318.11 is now on hand.

The disbursements of the Hatch fund are shown in the following tabular statement:

U. S. Experiment Station of South Dakota,

<table>
<thead>
<tr>
<th></th>
<th>Dr.</th>
<th>Cr.</th>
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<tbody>
<tr>
<td>To Receipts from the Treasurer of the United States</td>
<td>$15,000 00</td>
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<tr>
<td>By Salaries</td>
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<td>1,356 95</td>
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<td>&quot; Freight and Express</td>
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<td>253 45</td>
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<td>&quot; Heat, Light and Water</td>
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<tr>
<td>&quot; Chemical supplies</td>
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<td>176 22</td>
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<tr>
<td>&quot; Seeds, Plants, and Sundry supplies</td>
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<td>395 84</td>
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<tr>
<td>&quot; Fertilizers</td>
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<td>000 00</td>
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<tr>
<td>&quot; Feeding Stuffs</td>
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<tr>
<td>&quot; Library</td>
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<td>52 52</td>
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<tr>
<td>&quot; Tools, Implements, and Machinery</td>
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<td>&quot; Furniture and Fixtures</td>
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<td>&quot; Scientific Apparatus</td>
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<td>&quot; Travelling Expenses</td>
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<td>&quot; Contingent Expenses</td>
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<td>&quot; Building and Repairs</td>
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<tr>
<td>Total</td>
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<td>$15,000 00</td>
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Hilton M. Briggs Library
South Dakota State University
Brookings, SD 57007-1098