

**KANSAS-STATE AGRICULTURAL
COLLEGE. EXPERIMENT STATION.
BULLETIN 165. REPORT OF STATE
FORESTER UPON FOREST CONDITIONS
IN CENTRAL AND WESTERN KANSAS**

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Upon Forest Conditions in Central and Western Kansas by H. Webster

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H. WEBSTER

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IN CENTRAL AND WESTERN KANSAS**

Kansas—State Agricultural College. —
EXPERIMENT STATION.—Bulletin 165.

ED. H. WEBSTER, *Director.*

FARM BULLETIN.

DIVISION OF FORESTRY.

ALBERT DICKENS, *State Forester.*

Report of

***State Forester upon Forest Conditions in
Central and Western Kansas.***



MANHATTAN, KAN.
MARCH, 1910.

1897

March, 1912
26014

DIVISION OF FORESTRY.

ALBERT DICKENS.....	State Forester.
ROBT. E. EASTMAN.....	Assistant Forester.
CHRISTIAN JENSEN.....	Assistant in Charge Dodge City Forestry Station.
F. J. TURNER.....	Foreman, Ogallah Forestry Sta- tion.

FORESTRY has been one of the important lines of investigation since the early days of the Agricultural College, and some of the first experiments authorized by the Experiment Station were investigations of the growth of forest trees. These lines of work have been continued, and the work along forestry lines now includes:

1. Observations concerning the adaptation of species to Kansas conditions, plantings made at various dates from 1874 up to the present time being under observation.
2. Measurements of the rate of growth of various species.
3. Methods of propagation.
4. Influence of transplanting compared with trees grown from seed and not transplanted.
5. Investigation of the distribution and value of native species.
6. A study of the causes of success and failure of artificial forests.
7. The value of various species for windbreaks, for commercial plantations, and as ornamental trees.

Since May, 1909, the Forestry Stations at Ogallah and Dodge City have been under the care of the Department, and a special study of the forest conditions of the state has been commenced. A part of the state forestry work is the investigation of the fitness of soils and locations for forest trees. The preparation of plans for plantings and for the management of wood lots is being undertaken.

THE NEW FORESTRY LAW.

The recognized need of a vigorous forestry policy and an aggressive campaign for tree planting on every farm in Kansas prompted the legislature of 1909 to pass the following forestry bill, which was signed by Governor Stubbs on March 8 and became effective on March 15, 1909:

SENATE BILL No. 231.

AN ACT to establish at the Kansas State Agricultural College a division of forestry under the direction of the board of regents of that institution, and appropriating funds for the support of same, and repealing chapter 405 of the Session Laws of 1907.

Be it enacted by the Legislature of the State of Kansas:

SECTION 1. For the promotion of forestry in Kansas there shall be established at the Kansas State Agricultural College, under the direction of the board of regents, a division of forestry. The board of regents of the Kansas State Agricultural College shall appoint a state forester who shall have general supervision of all experimental and demonstration work in forestry conducted by the Experiment Station. He shall promote practical forestry in every possible way, compile and disseminate information relative to forestry, and publish the results of such work through bulletins, press notices, and in such other ways as may be most practicable to reach the public, and by lecturing before farmers' institutes, associations and other organizations interested in forestry.

SEC. 2. The state forester shall employ, under the direction of the board of regents of the Kansas State Agricultural College, such assistants, who shall be practical foresters, laborers and clerks, and shall purchase necessary office furniture and equipment as may be needed to carry into effect the purposes of this act.

SEC. 3. The state forester shall, upon request, cooperate with towns, counties, corporations and individuals in preparing planting plans and plans for the protection, management and replacement of trees, wood lots and timber tracts under an agreement that the persons obtaining such assistance shall pay the field expenses of such work.

SEC. 4. The board of regents of the State Agricultural College may also conduct on the Dodge City and Ogallah Stations other demonstrations and experiments of local interest, such as seed breeding and tillage experiments, whenever such demonstrations may not interfere with the work in forestry.

SEC. 5. For carrying the provisions of this act into effect there shall be appropriated from moneys in the state treasury, not otherwise appropriated, the sum of one thousand dollars for the fiscal year ending June 30, 1909; two thousand dollars for the fiscal year ending June 30, 1910.

and two thousand dollars for the fiscal year ending June 30, 1911. All vouchers for salaries and other expenses shall be paid in the same manner as expenses of the Kansas State Agricultural College.

SEC. 6. The Forestry Stations at Ogallah and Dodge City shall remain the property of the state for the purpose of conducting experimental and demonstration work in forestry under the direction of the board of regents of the State Agricultural College, who shall have all power in relation thereto now exercised by the Executive Council. And for the purpose of maintaining said Stations and for the purchase of trees, plants, seeds and cuttings, and for the payment of other incidental expenses, there is hereby appropriated the following sum, or as much as may be necessary, to wit:

For the Station at Ogallah.

For the fiscal years ending June 30, 1910, and June 30, 1911:

	1910	1911
Maintenance and repairs.....	\$500	\$500
For the purchase of trees, seeds and cuttings.....	300	300
For labor	1,200	1,200
For postage, freight and incidentals.....	200	200
	\$2,200	\$2,200

For the Station at Dodge City.

For the fiscal years ending June 30, 1909, June 30, 1910, and June 30, 1911:

	1910	1911
Maintenance and repairs.....	\$500	\$500
For the purchase of trees, seeds and cuttings.....	300	300
For labor	1,200	1,200
For postage, freight and incidentals.....	200	200
	\$2,200	\$2,200

For the Dodge City Station \$500, or as much thereof as may be necessary, for the purchase of a team, said sum to be available at once.

SEC. 7. Chapter 405, Session Laws of 1907, and all acts and parts of acts conflicting with this are hereby repealed.

SEC. 8. This act shall take effect and be in force from and after its publication in the official state paper.

I hereby certify that the above bill originated in the Senate, and passed that body February 27, 1909.

W. J. FITZGERALD,
President of the Senate.

Z. E. WYANT,
Secretary of the Senate.

Passed the House March 8, 1909.

J. N. DOLLEY,
Speaker of the House.

C. H. BRILHART,
Asst. Chief Clerk of the House.

Approved March 12, 1909.—W. R. STUMS, Governor.

STATE OF KANSAS,
OFFICE OF THE SECRETARY OF STATE.

I, C. E. Denton, secretary of state of the state of Kansas, do hereby certify that the above and foregoing is a correct copy of the original enrolled bill now on file in my office.

IN TESTIMONY WHEREOF, I have hereunto subscribed my name and affixed my official seal, this 13th day of March, 1909.

[SEAL.]

C. E. DENTON,
Secretary of State.

At the first meeting of the board of regents after the passage of the bill, as a preliminary measure to get the new work under immediate headway, Albert Dickens, professor of horticulture and forestry at the Kansas State Agricultural College, was appointed state forester. A reorganization of the work at the Dodge City and Ogallah Stations was at once undertaken in conformity with the provisions of the law. Mr. Christian Jensen, a man of experience and training in forest nursery and tree-planting work, was selected as assistant forester and placed in charge of the Dodge City Station. Mr. Jensen had received his training in forestry at the Biltmore estate, Asheville, N. C., under Doctor Schenck, and had several years' experience in nursery work in Iowa and Kansas. Mr. Turner, a practical farmer and a man of considerable experience in nursery work, was employed as foreman of the Ogallah Station. The efficient work that these men accomplished is described in the following pages of the bulletin.

The appointment of Professor Dickens as state forester was recognized by him as a temporary arrangement until such time as he could recommend the appointment of a permanent state forester who could devote his entire time to the work. The Forestry Service of the United States Department of Agriculture was asked to recommend a man who had the ability and training to undertake the duties of state forester as prescribed by the law. Very happily the regents were able to secure the man recommended by the Forestry Service. Professor Dickens recommended that the forestry work be put on an independent basis, and the plans as outlined by him were submitted to the Forestry Service. Their recommendation was made in the following words:

"We heartily approve of your suggestion of putting forestry on an independent basis at the College and of the plans you have outlined for handling the subject. It gives us great pleasure to be able to recommend to you a man whom we are

very glad unqualifiedly to indorse. He is Charles A. Scott, professor of forestry at the Iowa State College, Ames, Iowa. Professor Scott is a native Kansan, and a graduate from the agricultural course at Manhattan in 1901. Immediately after graduation he entered the forest-service work and, with the exception of one year spent at the Yale Forest School, he was in the service continuously until the fall of 1907. During this time he was engaged principally in tree-planting work in Nebraska, South Dakota and Kansas, although he also had some experience in other regions. From 1903 to 1907 he was in charge of the Nebraska and Kansas national forests, a place of considerable responsibility. In the fall of 1907 he was elected to his present position at Ames, where he has done excellent work, both in teaching forestry and in studying forest conditions in Iowa. Professor Scott meets people well; is used to public speaking and farmers' institute work; has executive ability, and is in every way a strong, clean, capable man."

At the January, 1910, meeting of the board of regents Professor Scott was elected state forester, and he has accepted and will enter upon his duties as soon as he can complete his work at the Iowa Agricultural College, not later than June 1, 1910.

The work at the Stations at Dodge City and Ogallah will be supplemented by extensive work to be conducted at the Fort Hays Branch Station.

The office of the state forester will be at Manhattan, Kan. Every farmer, town, county, school board or corporation interested in tree planting should address the state forester for information.

The following report submitted by Professor Dickens gives the results of his work at the Ogallah and Dodge City Stations under the new law, and sums up his experience of twenty or more years of careful observation and study of the forest conditions in central and western Kansas, and his conclusions on these matters may be accepted as entirely trustworthy.

H. J. WATERS, *President.*

Report of the State Forester.

By ALBERT DICKENS,

Professor of Horticulture and Forestry, and State Forester.

THE forestry work that has been done in central and western Kansas in the past quarter century has resulted in a large number of good tree plantations, many poor ones, some total failures and as might be expected a great variety of opinions concerning the possibility of growing forest trees in the various soils and situations found in the state. Theories, opinions and notions are easily manufactured. Frequently more ardor is exhibited in defending a notion than in securing facts, but the lessons that are valuable for the present and future settlers on the plains of Kansas must be drawn from facts.

Explanations concerning the treelessness of Kansas prairies have been plentiful, varying from the effects of wind and sun to the presence in the soil of substances and organisms which are fatal to tree growth, but any explanation that in any degree explains must give large measure of importance to the effects of fire.

Early settlers remember the story of an old Indian who was the last of his tribe to leave the head-waters of the creeks now known as the Kiowas, how they attempted to discourage winter visits of northern tribes by burning the prairies north of the Arkansas. The deer and buffalo would desert the burned tracts and the roving Indian would find no pasture for his war horse or pack pony. Other years his northern neighbors reached the river with a friendly north wind and then the fire raged to the creeks of the Cimarron watershed. And all the time the fire was the factor that kept the timber growth from encroaching upon the domain of the prairie. In central and western Kansas, the natural timber is restricted to very narrow belts along the streams.

Wherever the banks were sufficiently broken to check the fires, timber grew. Numerous examples of this might be given, taken from many localities. A striking example is furnished by Cedar Bluffs, in southern Trego county. The Smoky Hill river runs along the foot of the bluffs, cutting very close to the rocky ledge at each point of a crescent, the points being