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THE ARBOR DAY, PARK AND CONSERVATION MOVEMENTS IN IOWA

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Several governors of Iowa, beginning with A. B. Cummins, followed by B. F. Carroll, George W. Clarke, W. L. Harding, N. E. Kendall and John Hammill, have issued proclamations setting aside a day for tree planting. Governor Hammill in his proclamation setting May 1, 1925, aside as Arbor Day, said: "The original gift that nature bestowed upon us in our forests has been too freely spent. We have stripped our forests and at times destroyed the young growth and the seed from which new forests might spring, with no thought of the future, and while we already feel the grip of timber shortage, we have barely begun to save and store." President Coolidge asked that April 27 to May 3 be set aside as forest week, saying, "Let us apply to this creative task the great courage and skill we have so long spent in harvesting the free gifts of nature." The forests of the country must be started today. Our children are dependent on our course. I wish that the citizens of today might be thoroughly impressed with the importance of the sentiments expressed by President Coolidge, by the present governors and past governors who in their several proclamations urged the planting of trees. Much has been accomplished but much more remains to be done. It is certainly an encouraging sign for Iowa Ames to furnish a specialist who could give directions for the planting of trees. I believe that Prof. I. Bode had more requests than so many requests came to the Forest Extension Service at for assistance and gave help to more cases than at any previous

¹A few years ago, while I was sick, I undertook a review of the Arbor Day movement and the planting of forest trees in the state of Iowa. This was largely based on the work of the Iowa State Horticultural Society. It seemed to me later that there should be included also related matters concerning conservation in general and the work of the State Board of Conservation and the American School of Wild Life Protection. These matters are therefore brought together.

time in the history of the Extension Service. The Horticultural and Forestry Department is also doing a great constructive work.

In this paper I have brought together in brief abstract form what the State Horticultural Society and similar organizations have accomplished along forestry lines. The Arbor Day movement, and the publication of scientific papers to assist in the work of forestry and to add to our knowledge of the plant resources of the state is an important one. Incidentally I have brought in a few allied subjects such as landscape work, evergreen trees, and ornamental plants. The Conservation movement fostered by the State Horticultural Society and Iowa Park and Forestry Association as published in the Horticultural Society Reports, are also included. I feel sure that a survey of this kind will prove of value to forestry and horticulture. I have added a few comments on hardiness and distribution of trees, to round out the discussion.

ARBOR DAY

One of the important phases of conservation is that pertaining to Arbor Day. It has had a good influence on tree planting and conservation. The history of the movement is interesting. It started in one of the prairie states, Nebraska, where the settlers felt the need of trees.

Addison Erwin Sheldon of the University of Nebraska in *History and Stories of Nebraska*² has given us an interesting account of the beginning of Arbor Day celebration in Nebraska. Since this is an important movement, I will give the early history of it.

Mr. Sheldon says, "The early settlers of Nebraska looked out from the little fringe of woods along the streams upon a treeless prairie." The press in the early days, as well as numerous addresses, were filled with the thought that trees must be planted for the homes of the people. Out of this thought came the idea of Arbor Day. Prof. Sheldon gives the first record of this movement in the resolution introduced by the Hon. J. Sterling Morton who later became secretary of agriculture in Cleveland's administration. The resolution was as follows:

"Resolved, that Wednesday, the 10th day of April, 1872, be

²p. 206.

and the same is hereby especially set apart and consecrated for tree planting in the state of Nebraska, and the State Board of Agriculture hereby name it 'Arbor Day,' and to urge upon the people of the state the vital importance of tree planting, hereby offer a special premium of one hundred dollars to the county agricultural society of that county in Nebraska which shall upon that day plant properly the largest number of trees; and a farm library of twenty-five dollars worth of books to that person who, on that day, shall plant properly, in Nebraska, the greatest number of trees."

Robert W. Furnas, governor of Nebraska, issued a proclamation on the 31st of March, 1874, asking that the citizens of Nebraska set aside the 8th of April of that year as Arbor Day as expressed in the resolution by the State Board of Agriculture. The planting of trees in Nebraska became an annual custom by governors who followed Furnas. The Nebraska legislature in 1885 fixed April 22, the birthday of Hon. J. Sterling Morton, as Arbor Day. The legislature of Nebraska in 1872 passed an act that for every acre of forest trees planted by one of its citizens, one hundred dollars worth of his property was exempt from taxation. So many acres were planted to forest trees that the state received very little in state taxes, therefore the act was repealed in 1877. But to this act Nebraska is indebted for thousands of groves on the prairies of that state.

Since the inauguration of Arbor Day in Nebraska many of the states in the union have established an Arbor Day. The movement was so popular in Nebraska that in 1895 the popular name of Nebraska was changed to Tree Planters' State.

The Arbor Lodge which the Hon. J. Sterling Morton started is now a part of the state park system of Nebraska. I have recently visited the Lodge (January, 1926). A fine lot of a large variety of native and exotic trees with the beautiful Arbor Lodge erected by Mr. Morton is a worthy monument to this fine statesman.

The Iowa State Horticultural Society from the very beginning was interested in the matter of planting trees in the state of Iowa. Fifteen hundred copies of a circular were issued in 1873,³

³Report *Iowa State Hort. Soc.*, Vol. VII, p. 188, 1874; Vol. IX, pp. 14, 146, 1875.

and in this circular the State Horticultural Society set April 20, 1873, as Arbor Day, following the custom established the year previous by the state of Nebraska. The following year, 1874, the Iowa State Horticultural Society left the day open, and in order to encourage the planting of trees, the society offered premiums.

The Fourteenth General Assembly, in 1872, having made an appropriation⁴ of some \$200 to the State Horticultural Society, this appropriation was set aside to encourage the planting of trees. For a number of years the state society continued to make appropriations and urge the planting of trees on arbor days. Finally interest in the matter seems to have been lost, and the appropriations for this purpose were discontinued, though there had been much interest in the planting of trees in the state, notably by such men as Governor William Larrabee, Prof. J. L. Budd, C. E. Whiting and others, who continued to spread the gospel of planting trees. Charles Fish in 1896 urged that Arbor Day be made a legal holiday, and in that way keep up the interest in Arbor Day. Miss Marge Barrans⁵ of Lenox gives an account of an Arbor Day celebration in 1898, especially the planting of trees in a small rural community. Mrs. L. Y. Dennis⁶ urges Arbor Day celebration in public schools.

E. R. Harlan of the State Historical, Memorial and Art Department, informs me that Governor Albert B. Cummins issued the first Arbor Day proclamation, which set April 23, 1903, as Arbor Day.

J. B. Knoepfler issued a circular on April 20, 1893, in which he set apart an Arbor Day in the public schools with appropriate ceremonies. In this circular Prof. Knoepfler made this statement: "The custom of setting apart a day for tree planting and decoration of school grounds originated in Nebraska, but planting and decorating trees to the memory of distinguished and worthy persons with appropriate exercises is said to have been originated by Cincinnati schools."

He also states that "in 1887 attention was called to tree planting in Iowa through the publication of a forestry circular sent out from the Department of Public Instruction."

⁴*Ibid.*, Vol. VII, pp. 9, 10, 188, 1873.

⁵*Ibid.*, Vol. XXXII, p. 531, 1898.

⁶*Ibid.*, Vol. XXV, p. 26, 1891.

The schools generally in the state seem to have observed Arbor Day. G. W. Samson of the State Department of Public Instruction informs me that under his supervision Arbor Day was celebrated at Belle Plaine in 1887. An elm tree planted in the school grounds on that day is now a fine tree.

Mr. Samson states that J. W. Akers, who immediately preceded Superintendent Sabin, though he was interested in the improvement of public school grounds, did not offer any general suggestions on Arbor Day planting; and as to Henry Sabin, whose term as school superintendent began in 1888, though he did not set a day aside for this purpose, I knew him to be greatly interested in the out-of-doors; nor did he send out any leaflets for Arbor Day celebration.

In looking over the Arbor Day circulars I find that several of the state superintendents of public instruction issued rather elaborate handbooks on Arbor Day celebration.

In 1901 Richard Barrett published a special booklet giving appropriate exercises for Arbor Day and Bird Day, giving programs for lower and higher grades, many poems dealing with live things and nature study, and a very fine paper by Dr. Beardshear, "Some Birds I Have Known." Eugene Secor has a paper on the "Trees of Iowa."

In 1902 Mr. Barrett issued a manual for Special Day exercises with an introduction by Governor Leslie M. Shaw. This contained a number of interesting articles appropriate for Arbor Day, under the title of "Arbor and Bird Day." There are appropriate suggestions by the Superintendent of Public Instruction, and a paper by A. J. McManus, "Arbor Day Suggestions and Arbor Day Questions," noting that \$300,000,000 worth of trees are destroyed every year by fire in the United States. That at the end of each day we have 30,000 acres less of timber than at the end of the previous day. There is also a short article on "Liberty Trees," calling attention to the old "Liberty Elm," noting that our New England ancestors had started the custom of planting trees in the earliest settlement of our country. Dr. T. H. MacBride has an interesting article on "Native Trees of Iowa." A paper on "Stories of Trees" has reference to the Charter Oak of Connecticut, the oak near Fishkill where Washington

used to mount his horse, and the oaks of the Druids. The book is gotten up very attractively.

Governor George W. Clarke, in the Arbor Day proclamation, February 4, 1913, said: "John Ruskin said, 'While I live, I trust I shall have my trees, my peaceful idyllic landscapes, my free country life—and while I possess so much, I shall own 100,000 shares in the Bank of Contentment.' How we love the trees that sheltered our childhood! The tree that we planted with our own hands many years ago, now strong against winter storms and beautiful in summer sunshine, what a sense of proprietorship and inexpressible comfort we have in it!"

And then he refers in another communication, February 22, 1914, and quotes H. C. Evans in "The Forests of Iowa," speaking of some wonderful elms: "This tree was a monarch of the forest ere the white man set foot on Iowa soil. It was known to the Indian and the wild beast a hundred years before the independence of our country. It is probably three hundred years old. It reached its splendid proportions through great tribulations, in spite of wind and weather."

The trees to which he referred were in the yard of J. J. Selman in Bloomfield, Iowa.

John F. Riggs, superintendent of public instruction in 1904, issued a publication called "Special Days and Arbor Day" on April 29. The Arbor Day program contained papers on the "Opening of Spring and Children's Gardens" by L. H. Bailey; "Suggestive Outlines for Nature Study" by Elaine M. Bardwell; several articles on birds; paper by W. L. Hall of the United States Forest Service on "Tree Planting on School Grounds"; "Uses of the Forest"; "Arbor Day Encourages Forestry" by Gifford Pinchot, present governor of Pennsylvania. It contains an interesting account of some of the good things out-of-doors. This Arbor Day book contains a proclamation by Albert B. Cummins, setting April 29, 1894, as Arbor Day.

John F. Riggs also issued an Arbor Day publication in 1895 under the title of "Arbor Day and Holidays" under date of April 28.

In 1910 and 1911 John F. Riggs, the superintendent of public instruction, issued a Special Day Annual on various special days,

one of these devoted to Arbor and Bird Day. The book contains an account of the Audubon Society, and the same sets Arbor and Bird Day April 30, 1911. From it we glean the fact that Minnesota followed Nebraska in the establishment of Arbor Day, then Kansas, Tennessee, Ohio, Iowa, Illinois, Michigan, and West Virginia have followed the custom. There are quotations of papers from John Muir; a paper on "Trees Composite Beings"; "Menace of the Forest"; various selections from short papers on such topics as "Going Schools of Nature" and "The Wonderful Trees"; "Importance of Forests"; many poems, and the last article in the book on "Conservation," uring the importance of conservation for the good of our commonwealth.

In 1926 Governor Hammill made the following proclamation:

"Tree planting, whether confined to one or more trees, set out to beautify and shade the village or farm home, or carried to a larger extent is always gainful. The forest is the background of America. We have built enormous industries upon its resources. We lead the nations of the earth in using its products. We turn to the woods instinctively for recreation. The forest is one of our greatest heritages. It feeds our lakes and streams. It shelters and renews our wild life. It has given moral stamina and bodily vigor to every generation of America.

"It is time we balance accounts with our forests. It is time we became growers as well as users of wood. It is time we acquired something of the forestry sense of the provident folk of the old world—the instinct to protect the woods, to plant a tree where no more valuable plant will grow. It is time we paid heed to our idle acres—that we restored woods, industries and people on a large part of our soil which lacks them all."⁷

The Governor has since issued other proclamations.

The last of the Arbor Day manuals was issued by Agnes Samuelson, superintendent of public instruction in Iowa. This brochure of sixty-four pages contains some very useful information, especially the part termed "The Bird Manual" by Alden H. Hadley, the list of State Parks by John R. Fitzsimmons, and "Rural School Ground Planting" by Fitzsimmons also, and the splendid Arbor Day Manual prepared by Professor I. T. Bode.

It certainly is splendid to publish that fine sentiment by Mrs.

⁷*Bulletin Iowa State Parks*, Vol. IV, p. 53.

Francis E. Whitley, "Outdoor Good Manners," and the short article by the same author, and the conservation items by Mrs. Henry Frankel.

TREE CLAIM AND TAX EXEMPTION LAWS

To encourage the growing of trees on the prairies west of the Mississippi River, Congress passed on March 13, 1874, what is known as the Timber Culture Act, which was later amended on June 14, 1878. L. D. Kneipp, acting forester of the United States Forest Service, informs me that it was under the amended act that many entries were made by private individuals and land acquired from the United States. Iowa did not reap the benefit of this Timber Act as much as did some parts of Minnesota, the Dakotas, and Nebraska.

Many of the groves on farms in northwest Iowa owe their existence to this Timber Land Act. In many cases the trees were not taken care of properly, and for many years these trees made a very poor showing; but after they attained a larger size, better growth was made. These groves have done splendidly, and no doubt this Timber Culture Act was a good measure and had a wholesome effect on the pioneer population of northwest Iowa. Many of these groves consist of cottonwood, green ash, occasionally European larch and a few Austrian and Scotch pine.

The Timber Act was finally repealed, so Professor Kneipp tells me, March 3, 1891, in an omnibus public lands measure. In the same measure, Section 24 is the basic authority for the president to make withdrawal of land for national forest purposes.

John A. Warder in 1877⁸ noted the failure of the Timber Claim Act. However, to encourage this act, the State Horticultural Society in 1872 provided that premiums should be paid for the planting of groves, and gave general directions for the planting of trees.⁹

EARLY TAX LAWS AND PREMIUMS

During the year 1881 there was some discussion of the repeal of the tax exemption law for the planting of groves. This tax law evidently was repealed.

A model tax exemption law is published in the *Forestry Man-*

⁸Report Iowa State Hort. Soc., Vol. XI, p. 351, 1877.

⁹Ibid., Vol. XI, p. 359, 1877.

ual in the Horticultural Society Report by H. W. Lathrop.¹⁰ Not until much later was a good law enacted. The State Horticultural Society during the presidency of C. L. Watrous and R. P. Speer¹¹ there was much discussion of the subject of tax exemptions. Premiums were also offered for forest replantings. In a discussion following the above topic on forestry, D. G. Hinrichs refers to Hough's work on forestry. The taxation matter was also discussed by J. B. Grinnell, H. C. Raymond and C. G. Patten.

FOREST AND FRUIT TREE RESERVATIONS

During the Thirty-first General Assembly in 1906 there was passed a Forest and Fruit Tree Reservation Act, which first was sponsored by the Iowa State Conservation Association and the Iowa State Horticultural Society. The bill was drafted and passed through the efforts of Mr. Bixby. The bill was signed by Governor Cummins on April 10, 1906.

Wesley Green¹² in a paper on "Forest and Fruit Tree Reservations," gives an explanation of the act, and then notes that in 1907 there were 1917 natural groves with an acreage of 12,929.59 acres; artificially planted groves, 628 with an acreage of 1,989.62 acres. In other words, the 2545 forest reservations contained an acreage of 14,929 acres.

Prof. R. S. Herrick furnished me the following data:

The total number of acres in forest reservations from 1907 to 1919 inclusive, was 110,402.16. This number divided by 13 equals an average of 8,492.47 acres for each year.

The following are the number of acres in forest reservations for the years 1920 to 1924 inclusive:

1920.....	14,684.13	acres
1921.....	19,400	"
1922.....	16,273	"
1923.....	19,146	"
1924.....	23,562.43	"

The Special Session of the Fortieth General Assembly made the secretary of agriculture state forestry commissioner. See the

¹⁰*Ibid.*, Vol. XV, p. 166, 1881.

¹¹*Ibid.*, Vol. XVI, p. 21, 1882.

¹²*Ibid.*, Vol. XLII, p. 388, 1908.

Code of 1924. The secretary of the Iowa State Horticultural Society had been forestry commissioner up to that time.

EARLY HISTORY OF FORESTRY IN IOWA

The members of the State Horticultural Society have rendered great service to the forestry of Iowa. Mention has been made in several instances concerning the work of Prof. Henry M. McAfee, J. L. Budd, and Dr. C. E. Bessey.

The early history of forestry in Iowa is most intimately connected with conservation. During the early days of the State Agricultural Society and the State Horticultural Society, many papers and plans were presented to increase the forest area in the state. After about eighteen to twenty years of this preliminary work, or in about 1885, the forestry interests in the state society seem to have declined, but again in the early nineties there was a good strong sentiment for forestry in the state.

The adding of forestry to horticultural work at Iowa State College came largely through the efforts of the State Horticultural Society, by such prime movers as Prof. J. L. Budd, C. E. Whiting of Monona County, and Hon. William Larrabee.

W. W. Beebee, secretary of the State Horticultural Society in 1867,¹³ reports that not less than twenty thousand acres of trees were under cultivation in the year 1867, and there was a "spirit of increased interest which if suitably encouraged and properly directed will soon endow our now treeless prairies with beautiful groves to be more remotely crowned with stately forests, where there will exist those 'giants' and 'monarchs' of which we have been reading but, at present, so seldom see in our otherwise beautiful Iowa."

One of the other early advocates of tree planting in Iowa was C. E. Whiting¹⁴ of Monona County, who planted extensive groves. Mr. Whiting did a magnificent piece of work in the planting of trees in the early days. I saw many of the magnificent soft maple, cottonwood and walnut trees thirty and fifty years after their planting. They certainly demonstrate that Iowa can grow trees. The harvest was reaped many years later by his son and an ac-

¹³*Ibid.*, Vol. I, p. 7, 1867.

¹⁴*Ibid.*, Vol. I, p. 43, 1867; Vol. III, p. 66, 1869.

count is given by G. B. MacDonald.¹⁵ Mr. Whiting urged the one of the real pioneers of conservation. Two other names are planting of cottonwood, soft maple, and black walnut, and was found in the records of the State Horticultural Society, viz., Dr. Thomas Wardall of Mitchell County¹⁶ and Dr. Benjamin Greene,¹⁷ who were ardent advocates of tree planting.

It was urged in the State Horticultural Society that an appropriation of \$50,000 annually should be used to encourage the matter of tree planting, and to enhance the value of land. This appropriation was not made.

The second secretary of the State Horticultural Society, D. W. Adams¹⁸ of Waukon, Allamakee County, noted the fact that forestry was beginning to attract attention in the state, and noted especially the forests of Allamakee County. Mr. Adams became secretary of the society in 1869.

During the early history of the State Horticultural Society a committee on forestry was appointed. This was in 1872.¹⁹ This committee consisted of Prof. J. L. Budd, H. C. Raymond, and John Scott. It is of interest in this connection to note that this committee made a report, and in it they attributed the climatic changes of the state to the breaking of the prairies and the rapid run-off of water. In other words, it was noted that the water no longer percolated through the soil. This committee also gave a list of the important trees, of which we note the cottonwood, elm, maple, black walnut, etc.

What was the acreage in forests in 1873? Dr. A. G. Humphrey²⁰ gives the acreage as 2,580,000 acres. This was not sufficient for economic reasons to temper the climate. This estimate was probably incorrect.

The first professor of horticulture at Ames, Prof. Henry M. McAfee,²¹ became interested in the subject, and in a number of papers listed important trees for forestry purposes with brief

¹⁵*Ia. Ag. Exp. Sta. Bul.* 223, pp. 167-201, f. 1-9; also *Bul.* 170, pp. 29-59, f. 1-18, pl. 1-2. The "Woodusing Industries of Iowa." H. Maxwell, John T. Harris, G. B. MacDonald, and Nelson Brown, *Ia. Ag. Exp. Sta. Bul.* 142, pp. 231-304, f. 1-13.

¹⁶*Ibid.*, Vol. I, p. 39, 1867.

¹⁷*Ibid.*, Vol. I, p. 37, 1867.

¹⁸*Ibid.*, Vol. III, p. 6, 1869; Vol. IV, p. 10, 1870; Vol. V, p. 11, 1871; Vol. VI, p. 9, 1872; Vol. II, p. 8, 1868.

¹⁹*Ibid.*, Vol. V, p. 133, 1871.

²⁰*Ibid.*, Vol. VII, p. 119, 1873.

²¹*Ibid.*, Vol. IX, p. 291, 1875.

directions for planting. The first paper published by him was the report for the standing committee on forestry, of which he was a member, in the State Horticultural Society. This was published in 1875. The members associated with him on this committee were J. L. Budd, and C. E. Whiting. This committee compiled much valuable material to be published in the *Forestry Manual*. H. W. Lathrop²² was the author of one of the forestry manual. Associated with him was Suel Foster. This forestry annual was republished a number of times, and looking back for fifty years we can certainly see that this committee and the society, through its publications, did the state of Iowa a great and an important service.

We should not omit in this connection to mention a most interesting paper by C. E. Whiting on the subject of "Common Sense View of Timber Growing as a Vital Necessity in Our Material Growth and Development."²³ Mr. Whiting's statement on conservation is so significant and so prophetic that I take pleasure in quoting it: "The title deeds which we hold to the broad acres of this good old mother earth of ours, gives us no right to render them unfit for habitation for those who are to follow us. Nature has formed all things well, if man would only profit by her lesson, even when it made these vast prairies."

Another noteworthy pioneer tree planter of the state was William Larrabee, who later become governor of the state. He set out 100,000 trees about 1875 when there was much agitation on the subject of tree planting in Iowa. The trees set out by him were largely white pine, Austrian pine, and today they are magnificent specimens. I reported on the growth of these in 1925.²⁴

Close Brothers in the seventies also set out a large number of trees in Plymouth County. Fifteen hundred acres of trees were planted on the British colonization tract.

The year 1875 seems to be significant in another direction, because there was organized in Chicago the American Forestry Association, to a considerable extent sponsored from the prairies of Iowa. James A. Warder²⁵ was elected president, H. M. Mc-

²²*Ibid.*, Vol. XV, pp. 309-36, 1881; Suel Foster, "Forests, Woodland, Trees," pp. 333-35.

²³*Ibid.*, Vol. X, p. 286, 1876.

²⁴*Bulletin Iowa State Parks*, Vol. III, p. 67.

²⁵*Report Iowa State Hort. Soc.*, Vol. IX, pp. 289-91, 1875.

Afee was secretary, C. E. Whiting, G. B. Brackett and J. L. Budd were a committee to gather material on Iowa Forestry.

The interest shown in various plantings is well indicated by the forestry report made by J. L. Budd.²⁶ It was reported by Prof. Budd that the fourth edition of the *Forest Manual*, giving directions for planting, was enlarged and now contains 32 pages. It is interesting to note that Suel Foster of Muscatine,²⁷ also one of the prominent early horticulturists of Iowa, was added to the list of persons to become interested in forestry. His valuable contributions along forestry lines are well remembered by those who were in the Horticultural Society forty years ago, and the impress he made on horticulture in the vicinity of Muscatine is noteworthy.

C. F. Clarkson, known as Father Clarkson, of Grundy County, who afterwards became the editor of the (Des Moines) *Weekly Register*, was a pioneer horticulturist, and supplied members through his weekly letters to the *Iowa State Register*, with information about forestry. Father Clarkson was greatly interested in the planting of trees, and I recollect that on the college campus are two white pine trees to the south of the Agricultural Building that were sent by him from Steamboat Rock to be planted on the campus. Mr. Clarkson in "Mixing Forest Trees" deplored that more forest trees were not planted in the state, and that the forest plantations were not in better shape.²⁸

Col. G. B. Brackett,²⁹ Denmark, Iowa, secretary of the State Horticultural Society for many years, and at one time the president, and later connected with the United States Department of Agriculture as pomologist, made the suggestion that the forestry conditions existing in Europe should be studied, in order that we may be guided in the planting of trees in the West. The same action was earlier taken by the National Nurserymen's Association. Colonel Brackett was a fine gentleman of the old school, judicious, careful, and dependable in every way, and has left a splendid impress on the horticulture of North America. Colonel Brackett made the fruit models for the Centennial Exposition and those on exhibition in the society rooms.

²⁶*Ibid.*, Vol. XI, p. 25, 1877; Vol. XIII, p. 122, 1879.

²⁷*Ibid.*, Vol. XI, p. 248, 1877; Vol. XIII, p. 63, 1879.

²⁸*Ibid.*, Vol. XI, p. 251, 1877.

²⁹*Ibid.*, Vol. XII, p. 254, 1878.

A noteworthy resolution was passed by the Iowa State Horticultural Society in 1877 to have the Forestry Commission appointed by the United States make a study of forestry conditions in Europe. The men appointed by the American Nurserymen's Association were among the most eminent in this country. Among these men, one, Prof. J. L. Budd of Iowa, was outstanding. The other men were all eminent. Dr. C. S. Sargent, eminent authority on trees; William H. Brewer of Yale University, botanist and explorer; Robert Douglas, a leading nurseryman of the West; John A. Warder, forester and pioneer in the forestry movement.

Prof. J. L. Budd³⁰ mentions the continued interest in the growing of forest trees in Iowa, that the *Forestry Manual* prepared five years previous was not suited for present day practices, and advised re-editing the same to meet the present conditions.

W. L. Brockman³¹ came to the conclusion that it was best to only grow a few varieties or species of trees. Of these he would grow the white and green ash, honey locust, black walnut, box elder and the hickory elm.

The writer has seen many of the early planted trees in the state, and in nearly all cases in northwestern Iowa the green ash was used, and only a very little of the hickory elm. The trees mostly were green ash. (The hickory elm is the same as the corky bark elm.) The white or American elm is widely distributed in the state along river courses from Lyons to Fremont counties and across the state eastward. The corky bark elm is most abundant in northeastern Iowa, southwest to Story and Boone, and westward and north nearly to the Missouri River. The white ash is abundant in southern Iowa and extends north to Webster County in central Iowa, and along the Mississippi to southeastern Minnesota. The white ash is the best of all the ashes for cultivation, especially as an ornamental tree.

Charles A. Keffer,^{31a} at one time a student in Iowa State College, and later professor of horticulture in the South Dakota college, and now of the University of Tennessee, in a paper on the work of the United States Forestry Division, gives a historical account of the beginning of the forestry work in the

³⁰*Ibid.*, Vol. XVIII, p. 79, 1884.

³¹*Ibid.*, Vol. XXX, p. 445, 1896.

^{31a}*Ibid.*, Vol. XXXI, p. 85, 1897.

United States Department of Agriculture, referring to the work done in the Department of Agriculture. In 1886 in a paper on "Timber Physics," and later the work on the leading species of economic trees and experiments made in South Dakota, Nebraska, Kansas, and Colorado he gives valuable suggestions. He notes the fact of the withdrawal of seventeen million acres of land by the government for forestry purposes, and deprecates the lack of system to stop fires. He calls attention to the McCrae bill. He deploras the fact that the government had allowed the cutting off of vast acreages without adequate compensation—referring to the white pine lands of the North.

Following this paper a resolution was adopted to memorialize Congress on the conservation of forests.

J. R. Sage, of the Iowa Weather and Crop Service, in a paper, "Influence of Forests on Rainfall,"³² states that forests do not influence rainfall. No doubt forests do exert an important influence on conservation of water, but the total precipitation has not been changed.

Elmer Reeves on the subject of "Forestry"³³ calls attention to the value of black walnut lumber, and would use soft maple, white willow, white elm, and ash. He then refers to the growth of a large grove near Waverly planted by his father. The paper was discussed by C. L. Watrous, Annette Murray, J. L. Budd, A. F. Collman, and M. J. Wragg. Also by G. H. Van Houten, who noted that the shelterbelt was a necessity. W. H. Guilford³⁴ discussed the lime soils and trees of Dubuque County. There are some fine thoughts in this discussion.

H. W. Lathrop in a paper³⁵ on forestry states that there will always be enough timber and growing timber to supply our wants. In the year 1880, he notes in a newspaper report that 5,750,000 feet of timber was cut.

D. A. Porterfield on the subject of "Timber Culture"³⁶ urges the planting of black walnuts, and believes that in thirty years a walnut grove should be worth \$1,000 per acre. He notes the fact that a sale of black walnut timber near Searsboro was made at an exceptionally low value, and thinks the time will come

³²*ibid.*, Vol. XX, p. 94, 1886.

³³*ibid.*, Vol. XXXII, p. 170, 1898.

³⁴*ibid.*, Vol. XXXII, p. 177, 1898.

³⁵*ibid.*, Vol. XVI, p. 166, 1882.

³⁶*ibid.*, Vol. XXVI, p. 266, 1892.

when much more can be gotten for this kind of lumber. Prof. Budd in discussing this subject urges the use of black cherry.

P. F. Kinne and others³⁷ discussed the rapid growth of the cottonwood; notes trees set out twenty-five years ago have made a rapid growth—300 feet of lumber per tree. Reference is made to the Norway poplar, dubbed "The hidden saw log," commonly planted about Faribault County, Minnesota, according to Clarence Wedge. J. L. Hanchette,³⁸ in "Hardy Trees and Shrubs for the Northwest," states that a generation has dotted the prairies of the Northwest with cottonwoods, maples, red cedar, bur oaks, pin oaks, butternuts, black walnuts, hickories, honey locust, and Norway maple. Elmer Reeves³⁹ in a paper, "Care of the Tree Seeds Before Planting," notes the immediate germination of soft maple and elms; seeds of many other trees should be stratified. Red cedar differs; the seed must be separated from the berry and then stratified.

The following paper in 1915 also refers to forestry topics, by A. R. Toothaker,⁴⁰ "The City Man's Part in Horticulture."

W. P. Williams, in a paper on "Systematic Tree Planting on the Farms,"⁴¹ urged the planting of soft maple on the south side of the road for shade. He would use the elm for rolling pastures, and would not omit the evergreen windbreak because it is better in winter for the stock and the homestead.

E. M. Reeves, in a paper on "What Trees Should the Farmer Grow,"⁴² recommends the use of the red cedar, Scotch and Austrian pine, white pine, and arbor vitae, and notes that the balsam fir and black spruce are of little value. The Carolina poplar is valuable, and white and bur oak should be used, though their growth is slow. For planting purposes he likes the Colorado silver spruce and the concolor, Douglas fir; common hemlock, American elm, basswood, and the black walnut and butternut might be used to advantage. This paper was discussed by Prof. C. H. Scott, George H. Van Houten, F. P. Spencer, R. Hinds, and J. Forster. A. T. Erwin mentions the use of the cherry birch which he had seen growing at Waukon. The discussion was fur-

³⁷*Ibid.*, Vol. XLIV, p. 362, 1910.

³⁸*Ibid.*, Vol. XLIV, p. 379, 1910.

³⁹*Ibid.*, Vol. XLIV, p. 218, 1910.

⁴⁰*Ibid.*, Vol. XLIX, p. 384, 1915.

⁴¹*Ibid.*, Vol. XLVI, p. 356, 1912.

⁴²*Ibid.*, Vol. XLII, p. 65, 1908.

ther participated in by C. G. Blodgett, E. Tatum, L. H. Pammel, C. G. Patten, C. L. Watrous, M. J. Wragg, and W. M. Bomberger. Van Houten emphasized the value of the catalpa. Its value was also commended by Prof Scott, and he praised the hemlock. A Mr. Cady in a discussion of the use of trees, calls attention to the borers working on the white birch in 1908. I observed in 1926 that the borer became a great menace to the white birch. It does not attack the yellow and paper birch. I have observed that many thousands of the trees of the white birch were killed in Iowa in 1928.

Miss Alice Mann on "The Preservation of Forests"⁴³ gives a resume of what the national government is doing for forestry, urging the matter of reforestation, calling attention to the proposed Appalachian National Forest.

C. R. Bechtle in a discussion of the planting of pine⁴⁴ gives the method found practical for handling conifers in Nebraska.

Alonzo Abernethy of Osage, in a paper on "Various Trees That Should Be Grown,"⁴⁵ gives his experience in planting willow hedges in Crawford County, walnut and cottonwood planting in South Dakota, his experience in Iowa planting catalpa, basswood, Scotch pine and Norway spruce, and notes the changes that have taken place in the country between St. Ansgar and Howard Center. At one time there were no trees for thirty miles; now they are everywhere.

There was a discussion of forest planting by Elmer Reeves.⁴⁶ High praise is given to the European larch, the willow, cottonwood, and soft maple and white elm are also very valuable. J. S. Trigg said that the farmer could afford to plant from five to eight acres out of sixty. Others entering into the discussion were G. H. Van Houten and W. H. Guilford.

FORESTRY

A. G. Williams in the year 1890⁴⁷ estimated that the timber area of the state was two million acres, and deprecated the fact that much of this was in such poor shape that it was little more than brush land. He urged the growing of forest trees, and in

⁴³*Ibid.*, Vol. XLIII, p. 94, 1909; also *Proc. Ia. Pk. and For. Assn.*

⁴⁴*Report Iowa State Hort. Soc.*, Vol. XLIII, p. 250, 1909.

⁴⁵*Ibid.*, Vol. XLIII, p. 409, 1909.

⁴⁶*Ibid.*, Vol. XXXIII, p. 248, 1899.

⁴⁷*Ibid.*, Vol. XXIV, p. 131, 1890.

considering the plantation, many kinds should be planted such as soft maple, oak, cottonwood, hickory, and sugar maple.

Prof. J. L. Budd in a discussion of this subject, recommended the use of the black cherry as a most valuable tree and a rapid grower. This tree was first discussed in a meeting of the State Horticultural Society that year. I have never quite forgotten the plea made by Prof. Budd to make use of the black cherry. He also made a plea for the European larch at the same meeting.

Horace Everett on "Tree Planting on the Missouri Slope,"⁴⁸ notes that he planted 500 bushels of walnuts and 140,000 coffee tree nuts, and many ash. Plantings, of course, were made on the Missouri slope. We notice especially the plantings by C. E. Whiting, an account of which has been published by a number of persons, especially Prof. G. B. McDonald.

Prof. J. L. Budd, in a paper before the State Horticultural Society⁴⁹ on the topic, "Some Trees and Shrubs which Deserve Special Attention," recommends the black cherry, hackberry, pin cherry, black maple, sugar maple, birch, and Russian olive. He also had a paper on "A Few Desirable Ornamental Trees and Shrubs."

Prof. J. E. Todd, at one time connected with Tabor College, and later connected with the United States Geological Survey, an all around naturalist and geologist, in a paper before the State Horticultural Society⁵⁰ made an admirable address on the subject of "Rainfall in its Relation to Growth of Trees," bringing in the correlated lines as related to the growth of trees. Prof. Todd made many fine contributions to geology, and has left his impress on the geology of this state, Kansas, and South Dakota.

B. Shimek, in his address as president of the Iowa Park and Forestry Association, "An Effort in the Interest of Forestry,"⁵¹ discusses this subject. The address was, however, not published. The conservation meeting was held here in conjunction with the State Horticultural Society. He urged forestry and conservation.

L. H. Pammel, in a paper on "Our Neglected Opportunities,"⁵² discussed the proposed Appalachian National Park or forests,

⁴⁸*Ibid.*, Vol. XVII, p. 130, 1883.

⁴⁹*Ibid.*, Vol. XXVI, p. 461, 1892; Vol. XLVI, p. 186, 1912.

⁵⁰*Ibid.*, Vol. XIII, p. 112, 1879.

⁵¹*Ibid.*, Vol. XLIV, p. 65, 1910.

⁵²*Ibid.*, Vol. XLIV, p. 66, 1910.

and the White Mountains Reserve. Some of our congressmen who opposed the Weeks bill were G. N. Haugen, A. F. Dawson, while J. A. T. Hull and W. P. Hepburn were for the bill. The Ballinger-Pinchot episode was brought into the discussion.

A. T. Erwin, who had given some attention to municipal planting, discussed ably the "Municipal Control of Street Trees."⁵³

We may note in this connection also a paper of John Warder, "Forestry,"⁵⁴ who discussed the relation of different species of trees to each other, speaking of them as consociates and dissociates in relation to planting and the proper growth of trees.

Soil plays an important part in the distribution of trees, and this must be taken into account when we consider distributions and plantings. Many papers have been published on this subject of soils. We call attention especially to the valuable papers published by the Iowa Agricultural Experiment Station on soil surveys of the state. Of the horticulturists who have been interested in this, attention may be called to the paper of W. T. Worth.⁵⁵ The "Natural Resources of Iowa" was the title of his paper, in which he describes some of the timber resources, and recommends the planting of certain types of trees like the ash.

Miss Minnie Avery, who was a delegate to the meeting of the South Dakota Agricultural Society in 1907, made a report to the Iowa Society of the type of trees that are being planted in our neighboring state. Noting the planting of the box elder, ash, cottonwood, and the ponderosa pine; and I may note in this connection a fine windbreak of jack pine planted on the grounds of the South Dakota Agricultural College, Brookings, by Prof. Keffer, along with many other species of trees, and later augmented by Dr. N. E. Hansen. When I was there some four years ago I noted especially the fine specimens of Colorado blue spruce and Douglas fir.

Charles A. Keffer, discussing the subject of "Forestry and Birds, Their Relation to Horticulture,"⁵⁶ as indicating the importance of the growing of trees, mentions the fact that Gifford Pinchot of the United States Department of Agriculture will

⁵³*Ibid.*, Vol. XLIV, p. 68, 1910.

⁵⁴*Ibid.*, Vol. XIV, p. 333, 1880.

⁵⁵*Ibid.*, Vol. XLII, p. 42, 1908.

⁵⁶*Ibid.*, Vol. XXXIV, p. 93, 1900.

send an expert to any one who will plant five acres of forest trees.

H. W. Ash in a discussion of trees and the forest⁵⁷ asks the question, "Trees of the forest?" Forest has an influence on climate. It also protects the hill slopes. Millions of dollars go down stream from erosion. He also states that to stop the depletion of forests is our present charge.

C. A. Marshall in "Forestry as a Fine Art"⁵⁸ speaks of the influence of the intimate and stately tree standing in all its splendor of top and leaf as the most grand and glorious. This paper was discussed by J. S. Treat. "Forestry in Germany" by Samuel B. Green.⁵⁹

There is a fine discussion⁶⁰ of a forest experiment conducted at one of the provincial German forests. When Charles Heyer undertook the planting of this forest area he had little sympathy, but when the returns came in some years later he was listed as one of the great benefactors of Germany.

H. H. Fitch in a paper on "Shall We Engage in General Forestry?" discusses the subject of the forest and its use to people in general in Iowa.⁶¹

Prof. H. P. Baker in going over the early history of timber culture in Iowa⁶² stated that thirty to forty years ago an era of tree planting swept over the state. The laws of 1868 and 1872 giving bounty for tree planting did much toward increasing the total number of trees planted, as did the premiums offered by the Iowa State Agricultural Society. Trees planted were those that gave the quickest returns, like soft maple, cottonwood, box elder and green ash. Splendid results were obtained from these plantings. These trees are now being taken out, and a new era of planting is going on, trees being planted as follows: catalpa, walnut, elm, ash, hard maple and several conifers. He gave directions for planting of common locust, hardy catalpa, European larch, honey locust, mulberry, rock and white elm, coffee tree, arbor vitae, osage orange, red cedar, and of the other valuable trees he gave white pine, white spruce, jack pine, balsam fir,

⁵⁷*Ibid.*, Vol. XXVI, p. 114, 1892.

⁵⁸*Ibid.*, Vol. XXXVII, p. 383, 1903.

⁵⁹*Ibid.*, Vol. XXXVII, p. 183, 1903.

⁶⁰*Ibid.*, Vol. XXXVII, p. 183, 1903.

⁶¹*Ibid.*, Vol. XXXVII, p. 330, 1903.

⁶²*Ibid.*, Vol. XXXIX, p. 478, 1905.

red fir, white fir, ponderosa pine, and for quick growth results, soft maple and cottonwood.

We note also that with the early planting that Close Brothers, according to A. H. Lawrence,⁶³ planted in 1881 fifteen hundred acres of ground in trees. It will be remembered that Close Brothers were interested in an English colonization scheme at Le Mars and northwestern Iowa.

A writer in the Iowa State Horticultural Society for 1880 lays stress on the value of the cottonwood for western Iowa, and gives the size of trees planted in 1860.

M. E. Hardy,⁶⁴ one of the early members of the State Horticultural Society, said in a paper on "Forestry in Northwestern Iowa," "The forestry of the future belongs to the school of the prophets," and then he referred to the work of Close Brothers who planted large areas of trees. The care of these trees in many cases was neglected, because the land was largely in the hands of renters, but in many cases areas of from ten to twenty acres showed splendid results from plantings by Close Brothers with such trees as box elder, cottonwood and soft maple. H. C. Raymond⁶⁵ discussed prairie tree planting.

Prof. J. L. Budd made a contribution on the subject "Horticultural Lessons in Europe."⁶⁶ He discusses the subject of experimental forestry plantations in Europe and botanical gardens which he visited. He describes these. He gave a splendid account. He discussed also the subject of forestry plantations in the forestry schools of Europe, the German forests and forestry in Russia. It will be recalled that Prof. J. L. Budd was delegated by the State Horticultural Society to obtain hardy plants, trees and shrubs from Europe, and for this purpose the society paid his expenses for his trip. During his travels in Europe he wrote on the horticultural conditions in that country. These articles were published in the *Weekly Iowa State Register*. They were very well written articles. Prof. Budd made a very strong impression on the horticulture of the state. He introduced many valuable plants that were largely propagated on the grounds at Ames, Prof. Budd becoming the professor of horticulture in

⁶³*Ibid.*, Vol. XVI, p. 62, 1882.

⁶⁴*Ibid.*, Vol. XXV, p. 69, 1891.

⁶⁵*Ibid.*, Vol. XIV, p. 331, 1880.

⁶⁶*Ibid.*, Vol. XVII, p. 351, 1883.

1877. When he began to strongly advocate the cultivation of these Russian varieties, a storm of protest came from many Iowa horticulturists stating that the plants were untried and therefore they should not be extensively disseminated. In this discussion men like C. L. Watrous, G. B. Brackett, and C. G. Patten took part.

Sometimes this discussion was quite acrimonious, but it must be said in truth and candor that the time was not ripe to give a candid view of the situation. After the lapse of these many years it must be said truthfully that Prof. Budd performed a great service for the state of Iowa. While some of the trees he introduced did not prove to be what was expected, on the whole the plants were worthy of introduction, and he has left a very strong impression on the horticulture of the state, and many horticulturists have taken this same view, and looking back, I am sure that many of the fine trees and shrubs that he introduced still find a place in the forestry and horticulture of Iowa. He introduced the Norway poplar which has been extensively used. Prof. Budd had a great personality. He was a ready writer and a convincing speaker.

Dr. N. E. Hansen⁶⁷ made many introductions, and many of these plants are grown in the state. There are among them very valuable exotic plants. These are discussed in his papers on "Plant Introductions."

J. G. Chapman, in a paper on "Horticulture and Conservation,"⁶⁸ urges the importance of planting trees to stop erosion.

Alonzo Abernethy, one of the pioneer settlers of northern Iowa, and at one time state superintendent of public instruction, in a paper on "Forest Trees I Have Grown—How I Did It," before the State Horticultural Society in 1908, gave his experiences in growing of trees in Mitchell County, and his later experiences in Crawford County.⁶⁹ In the early days trees were always found along the streams, much more common in Mitchell County than in Crawford County where the family pioneered; but great changes have been brought about through the planting of forest trees.

(Continued in January Number)

⁶⁷*Bulletin South Dakota Agric. Exper. Sta.*, No. 224.

⁶⁸*Report Iowa State Hort. Soc.*, Vol. LV, p. 214, 1921.

⁶⁹*Ibid.*, Vol. XLIII, p. 409, 1909.

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