

Wooded tracts to the pioneer meant materials for shelter and fuel, and game for food. Today they mean woodlots, windbreaks, shelterbelts, and erosion-control areas.

17. Trees of Our Times—and Pioneer Times

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WHEN SETTLERS FIRST ENTERED THE TERRITORY WHICH IS now Iowa, timber covered about six and one-half million acres, or 17 per cent of the land. This region was the transition zone between the more heavily timbered lands of the states to the east and the prairie lands to the west. Clearing land for cultivated crops has reduced the original timbered area to about two and one-half million acres, of which about half a million acres are planted woodlots and shelterbelts.

Forests set the pattern of pioneer settlement in Iowa. Many of the early settlers selected timbered areas in place of open prairie lands. Most of them came from timbered sections where "clearing" had been necessary and many thought that the timberland, when cleared, would be better crop-producing land than the prairie. Essentials for existence, shelter and fuel, depended upon a source of supply from the nearby timberlands. The woodlands also made their contribution in supplying game for food.

At the time of the early settlers, much of the early transportation, especially along the Mississippi River, was made by water. There were no railroads and wagon roads were poor, sketchy, and far between. A map of the original forest areas of Iowa shows that the more heavily timbered areas of the state followed in general the water courses from southeast to northwest. The settlements of the first pioneers, starting at the Mississippi River, followed these same water courses.

Many settlers on prairie land acquired small timber tracts of five to twenty acres, which were sometimes located at a distance from the farmstead.

Following the first settlers came the sawmills which provided lumber for the rapidly growing settlements. Bottom lands were cleared first because they were most valuable for cultivated crops. The farmer was

occupied with planting and harvesting food crops during the cropping season, but on the approach of cold weather he went to the woods with ax and saw.

Much of the lumber manufactured in eastern Iowa in the early days was cut from logs floated down the Mississippi River from Minnesota and Wisconsin. Yet large amounts of native Iowa trees also were manufactured into lumber. In 1877 the river towns sawed nearly four hundred million feet of lumber. Even western Iowa, in this same year, cut about eight million feet of lumber in the vicinity of Sioux City, most of which was cottonwood. The price of the sawed cottonwood lumber was fourteen dollars per thousand feet.

NEED FOR TREE PLANTING

Nearly a century ago the need was realized for tree planting in the prairie or sparsely timbered sections of the country. Arbor Day, initiated in 1872 by J. Sterling Morton, of Nebraska, started a movement that influenced more tree planting in Iowa than in Nebraska.

The Timber Culture Act, passed by Congress in 1873, gave 160 acres of land to any farmer who agreed to plant 40 acres of them in trees. It was later adjusted so as to give title when the settler could prove that 10 acres were planted and were properly cared for. This act was responsible for the planting of several million trees in the state. These early plantings furnished fuel, building materials, and shelter for many farms. The act became ineffective when no additional lands were available from the government, and less than thirty-two thousand acres of Iowa's total lands were claimed under it.

The need for planted timber, especially in the treeless portions of the state, was urged as protection against severe winds.

One writer in 1872 commented: "The rank verdure of the native prairies has been succeeded by cultivated fields; ponds and marshes are now dry, and . . . the only remedy against this great and increasing evil is tree planting and windbreaks."

Many agencies in Iowa, other than the federal government, were instrumental in stimulating tree planting. The Iowa State Agricultural Society reported that one farmer in Appanoose County had planted thirty thousand trees and another in Lyon County two hundred fifty thousand. In 1873 this society offered twenty-one premiums for different kinds of trees set out in permanent plantations. In 1868 the society proposed a tax exemption law which would reduce by one hundred dollars the taxable value of farm lands for each acre planted in trees for a period of ten years. This act was finally amended so that

"no person should have more than one-half of his estate free from taxes and no owner of a nursery which is growing stock for sale should be exempt." As with some of the federal acts, some landowners abused this privilege. In some cases after the ten-year period the trees were cut before they became of usable size and another area was planted in order to secure one hundred dollars' exemption.

The Horticultural Society also published an annual tree manual for twenty years, beginning in 1874 as an outgrowth of the Arbor Day program. The manual included instructions on methods of planting and offered premiums for tree planting.

One of the federal acts which has been of great interest and help to the farmers of the prairie section is a portion of the Clarke-McNary Act of 1924. Under it the federal government co-operates with the states in tree planting, growing, and distributing trees for reforestation, soil erosion control, shelterbelts, and in providing cover for game birds and animals. The federal government, acting through the Forest Service, pays one-half the cost of the trees, and the state the other half. Since the enactment of the law eight to ten million small trees have been furnished to the farms in Iowa. The program has been particularly beneficial in making possible the reforestation of lands which are not best used for cultivated or forage crops.

Throughout the entire woodland area, which includes Iowa, timberlands have generally been depleted over the past hundred years to such an extent as to justify aid from governmental sources in getting these lands back into productive condition. The Farm Forestry Act of 1935 was the answer. In brief, the plan provided for giving the farmers and woodland owners "on the ground" assistance in selecting the proper trees for removal when harvesting, determining the contents and market value of the timber, and assisting the owner in getting the products marketed and manufactured.

When this act was passed much of the forest land was not producing timber of value. Some hillsides had been reduced to raw gullies, others had been cut and culled over for many years and were worthless brush areas. These lands called for guidance in methods of reforestation, selection of proper tree species to use, methods of improving immature stands, and protection against such destructive agencies as fire, livestock grazing, tree diseases, and insect infestations.

Establishment of the Civilian Conservation Corps was another act that gave Iowa forestry important assistance. At one time the forty-six camps in the state had approximately nine thousand young men engaged in tree planting, soil conservation, forest improvement, park and

wildlife conservation work. Although the CCC program was an emergency work program, many farms gained immeasurably in better land, water, and wildlife conservation during its brief existence. The CCC program led to establishment of the Soil Conservation Service. A further development in legislation brought the Soil Conservation District law for Iowa. Its provisions are now adopted in some eighty-five of the ninety-nine counties. They provide effective voluntary means for carrying out long-time plans in better cropping methods, soil conservation, and woodland management.

AGENCIES PROMOTING FARM FORESTRY

The reports of the Iowa State Horticultural Society since its beginning are full of investigations or observations which have been of aid in woodlot forestry. This is especially true with respect to the planting of trees for ornamental and windbreak purposes. The report of this Society for 1867 contains articles on "Planting Trees"; "Trees and Timber Culture"; "Raising Groves and Timber Belts in Northern Iowa"; "Evergreens for Hedges, Protection and Beauty"; "Transplanting Large Evergreens"; "Care of Soft or Silver Maple Seed." J. R. Stickney in this report states: "Every prairie dweller should see this Norway Spruce hedge which is twenty feet high, eight feet broad, and which makes a good windbreak." Another contributor of that same year voiced the sentiment of many of the members when he stated: "The fact, too, that the most calls for teaching in a horticultural direction are now in the line of evergreens and timber growing, will save us any apology for changing the usual order, and giving our first essay pages . . . to those deeply interesting subjects."

Judge C. E. Whiting, of Monona County, observed in a Society report that our timberless prairies need not be timberless: "I also repeat that, in spite of all the learned discussions and scientific theorizing in regard to the cause of our timberless prairies, our cultivated forest trees, year after year, grow right along with immense rapidity, in blissful ignorance of all the reasons why they should not grow."

This same landowner had in mind the need for forest products in the future in his statement: "If I were to plant a section to timber for an investment for my children, I would have it all black walnut—a tree that will grow to saw-log size sooner than pine, and even now in our markets it is quoted at three times the price of pine." Through a period of nearly eighty years the State Horticultural Society has encouraged tree planting by farmers.

A later organization, the Iowa Park and Forestry Association, which

originated in 1901, was instrumental in educational and legislative programs. One of the first efforts of this association was the sponsoring of an act providing for the partial exemption of farm timber tracts from taxation. The act was finally passed in 1906 and still is in force. It provides that planted and native timber tracts may, upon application, be taxed upon an assessed valuation of one dollar per acre (now four dollars per acre). To qualify, the timberland must have at least two hundred trees per acre and be kept free from livestock grazing. The act recognizes the inequality in taxing a growing crop of timber year after year upon its full valuation, when the crop is removed at maturity only after a long period of years. By 1920, 14,700 acres were listed for tax reduction. This had increased to 36,000 acres in 1933 and to a total of 56,000 acres in 1943. The principal purpose of this act was to encourage farmers to avoid undesirable timberland clearing.

This organization, which later became the Iowa Forestry and Conservation Association, was active for twenty-five years. In addition to its contributions toward farm forestry and conservation, it was one of the most potent influences in the establishing of the state park system.

Voluntary associations and societies were among the first educational agencies promoting farm forestry in its various phases. Conservation of forests and soils was not brought into the public school educational program until recently.

Iowa was one of the first states to give college courses in forestry. These were designed specifically for Iowa landowners. The Ames Agricultural College bulletin of 1873 outlined several courses of instruction in forestry and arboriculture in the newly-established Department of Horticulture and Forestry. This early program was largely due to Suel Foster, first president of the board of trustees, and to Professors Henry McAfee and J. L. Budd. Professor Budd served on a federal forestry commission sent to Europe to investigate "trees and forestry conditions." His findings resulted in the introduction of several new tree species to Iowa and other states.

Not much advance in college forestry work came about until 1903 when a trained forester was placed in charge of forestry instruction in the Department of Horticulture and Forestry at Iowa State College. Courses in farm forestry were set up for agricultural students, and technical training for professional foresters. Although the graduates from the professional course have usually entered federal forestry employment or taken positions with the various forest industries, some of them have entered state work with conservation commissions and extension services. More recently, graduates have joined the Soil Conser-

vation Service and the farm forestry division of the United States Forest Service. More and more of the technical forester's time is being devoted to farm forestry.

Organized extension work in forestry has been conducted since about 1906. It has included assistance to the farmer on problems of woodlot management, reforestation, planning and planting farm shelterbelts, control of erosion, use and marketing the products from the woodlot, and assisting in boys' and girls' club work. The forestry extension program has been one of the most important means of promoting better forest practices on the farm.

No organized research in forestry was conducted in the pioneer period, yet many valuable demonstrations and investigations in forestry problems were conducted at an early date. Early in this century the Iowa Agricultural Experiment Station, with federal and state support, initiated limited investigations on forestry and allied problems. Practically all forestry research in Iowa has related to the farm forests. Beginning about forty years ago the Experiment Station has carried forward projects to determine survival, adaptability to soil and moisture conditions and yield in products; planting for soil erosion control; preparation of management plans for hardwood timber; forest nursery methods; forest soils investigations and windbreak planting experiments.