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H.H. CHAPMAN: YALE UNIVERSITY PROFESSOR WHO TRAINED STUDENTS AT URANIA AND INFLUENCED THE DEVELOPMENT OF FORESTRY IN THE SOUTH



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Portrait photo of Herman Haupt Chapman taken in 1937 while serving as President of the Society of American Foresters. (Photo from Southern Forest Heritage Museum and Research Center collections)

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Abstract:

H.H. Chapman never lived, nor was he employed, in the South, but he was responsible for the understanding of the role of fire in the management of southern pine forests. In 1917, he began bringing Yale University forestry students in the South for 3 months of training each year. Located at Henry Hardtner's sawmill town of Urania, they installed studies, collaborated with Forest Service researchers, and learned of the ecology of southern pine forests. Results of his efforts frequently conflicted with the assumptions of national forest leadership on the role of fire. Chapman did not hesitate in stating his belief of the value of fire in forest management, and over time his position became widely accepted. Chapman's leadership in studying southern pine ecology not only contributed greatly to the development of southern forestry practices, but also resulted in the training of numerous foresters.

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As strange as it may seem, it was northern university-trained foresters who led the effort to reforest the South following the devastation of the South's forests resulting from northern lumbermen and industrialists' lumbering efforts in the early 20th century. The South's, and apparently the Nation's, first forestry school was the Biltmore Forest School started in 1898 at Asheville, NC, by German trained Carl A. Schenck. The school provided only one year of practical training, and it closed in 1913. Also, in 1898, more typical four-year forestry schools were established at Minnesota, Cornell, Michigan, and Yale Universities. The earliest typical forestry schools in the South were at University of Georgia in 1908 and Louisiana State University in 1926.

Although the northern schools trained foresters who came into the South, it was H.H. (Herman Haupt) Chapman, a long-time faculty member of Yale University's School of Forestry, who in 1909 began bringing students into the South each year for training. An early host was the Thompson Lumber Company near Trinity, Texas. In 1917, Henry Hardtner invited Chapman to Urania, LA, to spend three months on Hardtner's company land and engage in forestry work (Louisiana State University 1941). This arrangement continued for 25 years. Through this process Chapman made significant contributions to understanding the practices needed to restore the South's longleaf pine ecosystem.



The 1917 class of Yale University's School of Forestry at Urania Lumber Company's summer camp site. H.H. Chapman (on the left) and Henry Hardtner are seated in the second row.

Chapman graduated from the University of Minnesota in the early 1900s. He established a research plantation with red, white, jack, and Scotch pines at the University's experimental farm in 1900—probably the oldest in the nation. According to his colleagues at Yale, Chapman originally trained as a poultry scientist and was so boisterous about it that he became known as “Chicken Chapman.” Described variously as dynamic, dogmatic, charismatic, impressive, and intimidating by students and colleagues, he was known as “Chappy” to his friends. His strong personality had a lasting impact on his students (Barnett 2011).

Chapman pioneered such novel concepts as determining growth possibilities, evaluating the relation of fire to establishment of longleaf pine, and recommending periodic controlled burns as a means of suppressing hardwood competition. He published more than 20 papers between 1909 and the early 1940s dealing with southern pines and their relationship to fire. His work showed that most winter fires do not kill all longleaf pine seedlings; rather, they helped establish stands, suppress pine and hardwood competitors, reduce hazardous fuel accumulations, and control brown-spot disease (Chapman 1932). Chapman recommended use of fire in longleaf pine stands every three years.



This photo of the Roberts plot near Urania was taken in 1940. The plot was established in 1913 to evaluate effects of annual burning on longleaf pine development. From the left: H.H. Chapman of Yale University; U.S. Forest scientists C. Allen Bickford, H.H. Muntz, G.W. Trayer, Clarence F. Forsling, Roy Chapman, T.R. Truax, John Curry, and J.M. Hughes; and Lloyd Blackwell, who became the Head of Louisiana Tech University's Department of Forestry.

Chapman's recommendation of the use of controlled burning in longleaf pine reforestation ran counter to the prevailing understanding at the time. In the 1920s, the Forest Service had published a technical bulletin that stressed the evils of fire in any form or for any purpose. This led to a lengthy conflict between Chapman and U.S. Forest Service specialists. As early as 1912, Chapman argued that to keep fire entirely out of southern pine lands might result in complete

destruction of the forests with articles and a bulletin that described the importance of burning in the management of longleaf pine.

In 1926, Philip C. Wakeley and others of the Southern Forest Experiment Station began a large study to evaluate Chapman's contentions. With one exception, they found that Chapman's positions were correct. Only his contention that prescribed-fire controlled brown-spot needle disease was not found accurate (Wakeley and Barnett 2011).

Eventually, the Forest Service agreed that Chapman's recommendations for the use of fire in longleaf pine management were appropriate.

Although his work with controlled fire was particularly noteworthy, other studies were also exceptional. One was the description of a natural hybrid of longleaf and loblolly pine. Locals had long recognized this distinctive tree that assumed the worst characteristics of each parent and called it "bastard" pine. Chapman did the critical evaluation of nature of this cross and in 1922 published a careful botanical description (Chapman 1922). Since he recognized and described the hybrid, he was allowed to name the species. He named the hybrid Sonderegger pine (*Pinus xsonderegerii*) after the Louisiana state forester at the time. V.L. Sonderegger was a graduate of the Biltmore Forestry School and served as State Forester on two separate appointments. He and Chapman disagreed on a number of issues, and folklore has it that the naming of the hybrid was not one of honor, but recognition of the local descriptive name of the cross.



Chapman measuring the effect of fire on longleaf pine seedling growth. The controversy on the effects of fire between Chapman and Forest Service specialists continued for a number of years, but gradually they accepted the beneficial effects of fire on the management of longleaf.

In the 1930s, Chapman initiated studies on the effects of thinning on loblolly pine stand development. His studies showed that yield for normal thinning increased stand yields by about 20 percent due to faster rates of diameter growth. These studies emphasized the advantages of applying thinning techniques to stands of timber. His work also led to numerous studies that refined thinning guidelines and improved yields from plantation establishment (Chapman 1926).

Chapman's leadership in studying southern pine forestry not only contributed greatly to the development of modern forestry practices, but also resulted in training of numerous foresters, many of whom returned to the South in leadership positions. His efforts made a significant impact on the restoration of forests across the South, and he became recognized as the "father of controlled burning for silvicultural purposes." Chapman and his Yale University students made significant contributions to the management of southern pine forests.

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