

Scott Samuel Pauley



SCOTT SAMUEL PAULEY died on April 18, 1970. Through his research, teaching, and leadership Professor PAULEY contributed to the growth of forest genetics in the United States and throughout the world. This pre-eminence in his chosen field and his humanity makes it fitting that we pay tribute to his memory. Those of us who were privileged to have known him personally recognized him as a rare individual with unusual perception and wit who combined the objectivity of his science with a warm concern for his fellow man.

SCOTT PAULEY was born on December 21, 1910 in Sault Ste. Marie, Michigan. He grew up among the forests and lakes of Wisconsin and Michigan. Throughout his life he found pleasure in these forests in his work and in his leisure. Certainly this early environment contributed to his choice of Forestry as a profession.

His active mind led him to the exploration of a wide variety of subjects. As a young man, from 1931 to 1933, he served in the U. S. Army with the 7th Cavalry Regiment at Fort Bliss, Texas and with the Army Air Corps at Chanute Field, Illinois. While at Fort Bliss he became intrigued by the history of the American West, an interest which he maintained throughout his life.

The first step towards his future career was made in 1934 when SCOTT entered the School of Forestry at the University of Minnesota. His interest in Botany was apparent at that time when he chose Forest Biology as an area of specialization. Indicative of his interests is the copy of SARGENT'S *Manual of Trees of North America* received from his father for Christmas in 1934. While completing his Bachelor of Science degree, received in 1939, he worked intermittently for the U. S. Forest Service, Wisconsin Conservation Department, and the University.

Following graduation he worked for the Wisconsin Conservation Department as a Forest Ranger. It is probable that he viewed this employment as temporary, but he undertook the job with great vigor. While in Wisconsin he prepared the first of his over 60 publications. This publication is unique and a testimony to his versatility as it dealt with wild fire and education of the public rather than with genetic or botanical observations.

In 1940 he was able to continue his education working under Dr. EARL H. NEWCOMER in the Department of Botany

of Michigan State University (Michigan State College). The subject selected for his thesis was "Genetics and Cytology of Some Important Hardwood Tree Genera Native of the United States" and focused on the subject which became his life's work. Receiving his Master of Science degree in 1942 he spent several months assisting Dr. NEWCOMER, then at the University of North Carolina, and became familiar with the flora of South-eastern United States.

He returned to Michigan State College in the fall of 1942 as an Instructor in Forestry and Geography. World War II interrupted his career in 1943 sending him to the South-west Pacific as a Lieutenant in the U. S. Navy. Ever adaptable, he took an avid interest in the flora of that region doing considerable informal botanizing.

Released from the military in late 1945 he attended Harvard University. His Ph. D. work was done under Dr. KARL SAX for whom he had great affection and respect. The forest tree breeding work, supported by the Maria Moors Cabot Foundation, was initially centered in the Arnold Arboretum. The availability of specimens of most north temperate species undoubtedly contributed to the broad outlook toward potentially valuable materials which SCOTT maintained throughout his career.

Poplars were viewed by Dr. PAULEY as "the guinea pig of forest-tree breeding", and he worked with this genus extensively. His Ph. D. thesis was titled: *Early Selection for Heterosis in Poplar Hybrids*. After completion of his degree he remained at Harvard, first as an Assistant Professor, and then as a Lecturer in Forest Genetics. He also assumed major responsibilities in forest genetics research.

At Harvard, Dr. PAULEY initiated studies of North American poplar ecotypes of diverse origins and did considerable work related to the genetic control of photoperiodic responses. An extensive program of inter- and intra-specific hybridization of species of *Populus*, mainly the aspens, was also begun under his direction. He received international recognition as a result of his work and became a source of material for forest geneticists throughout the world. The clone *Populus trichocarpa* 'FRITZI PAULEY' now commercially planted in parts of Europe was named in honor of his wife. This clone was collected by him in 1947 on a trip to the west coast of the United States with Dr. HELGE JOHNSON.

In 1955 he joined the forestry faculty at the University of Minnesota where he remained until his death. There he initiated and developed undergraduate teaching, graduate education, and research programs in forest genetics. His students are found in responsible teaching and research positions throughout the United States and abroad.

The research program he initiated in Minnesota is of broad scope involving a large number of native and exotic species. His work has provided information basic to tree improvement in Minnesota and established a rich source of material for future studies.

SCOTT recognized the need for cooperation in forest genetics work and the biological insignificance of political boundaries. He actively promoted cooperation among forest genetics workers and was a leader in the regional tree improvement program for the northcentral United States. A leader in the Lake States Tree Improvement Committee, he organized and participated in numerous regional congresses and workshops dealing with forest genetics. On the international level he participated in the 7th International Botanical Congress in Stockholm in 1950, the 8th Botanical Congress in Paris in 1954, the 3rd World Forestry Congress in Seattle, Washington in 1960, and was a member of the United States Forestry Study Group which visited the U.S.S.R. in 1959.

Professor PAULEY was vitally concerned with the education of foresters and served as a Visiting Scientist Lecturer under the sponsorship of the Society of American For-

esters and National Science Foundation from 1961 to 1966. At the University of Minnesota this concern expressed itself by his active role in University and School of Forestry affairs. As a teacher he was superb. He possessed the intuition and patience needed to guide students and yet encourage their independence of thought. When necessary he could be severe, but his criticism was always tempered with kindness.

Always interested in the development of scientific literature, Dr. PAULEY served on the editorial board of *Forest Science* from 1957 to 1958 and was an associate editor of the *Journal of Forestry* from 1960 to 1963. He was editor of *Minnesota Forestry Notes* and special publications and authored numerous book reviews.

He served on the advisory committee of the Quetico-Superior Wilderness Research Center. Professor PAULEY was

a member of the American Association for the Advancement of Science, American Institute of Biological Sciences, the Genetics Society of America among other professional organizations and took an active part in the Society of American Foresters.

Dr. PAULEY is survived by his widow FRITZI, his mother FLOSSA, his daughter Mrs. NAN PAULEY JOHNSTON, three grandchildren, and a brother, JACK. It was his wish that his ashes be dispersed on Loon Lake near Grand Rapids, Minnesota where he had enjoyed the beauty of nature and life at his summer residence. He was a great humanist and his students and associates deeply cherish his memory.

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Genetic Variability in Eastern White Pine from Michigan

6-Year Results

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In former days eastern white pine (*Pinus strobus* L.) was the principal northern timber tree. It grew to large sizes and its wood was durable, easily worked and able to retain its shape after seasoning. Partly for those reasons and partly for its delightful appearance it was chosen as Michigan's state tree. The same qualities that made it important 80 years ago make it a valuable species to plant today.

Results from two range-wide provenance tests indicate that trees from the southern Appalachians grow fastest, even as far north as Pennsylvania and southern Michigan (WRIGHT *et al.*, 1963; FUNK, 1965; GENYS, 1968). In the northerly parts of the Lake States, however, more northerly origins are preferable (KING and NIENSTAEDT, 1968). Published American inheritance data are limited to studies of half-sib progenies of Wisconsin parents selected for resistance to white pine blister rust; parent-progeny correlations were not significant but there were differences among progenies in resistance (PATTON and RIKER, 1966).

Aims and Methods

Through their 11th year, eastern white pines from southern states have grown well in southern and central Michigan. Perhaps they will continue to grow well and will be recommended for commercial planting. Perhaps they will succumb to a cold winter. If that happens, northern white pines must form the basis for long-term improvement programs aimed at northern areas. This experiment was undertaken to assess the genetic variability present in Michigan's native stands. If there is sufficient variability,

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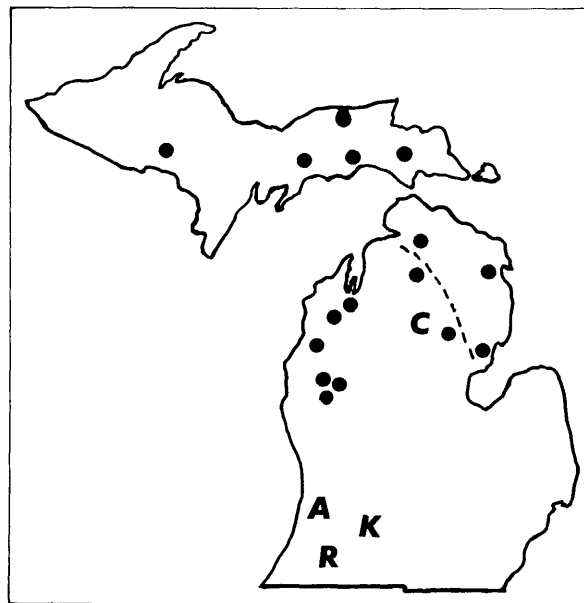


Figure 1. — Distribution of the parental stands (black circles) from which the half-sib progenies were obtained. The four measured test plantations are shown as A = Allegan, C = Crawford, K = Kellogg and R = Russ. The dashed line is an arbitrary separation of the northeastern and west-central portions of the Lower Peninsula.

the plantations are designed to serve also as seed orchards and breeding arboreta.

In the autumn of 1960 open-pollinated seed was collected from 123 native trees in 17 stands in 15 Michigan counties (Figure 1). Some collectors tried to select superior parents but could not; few native stands in the state contain enough trees growing under uniform conditions to permit meaningful phenotypic selection.

The seeds were given a 10-day cold water stratification treatment and sowed in the university's research nursery in the spring of 1962, using a 5-replicate randomized complete block design. Each plot was a 4-foot row con-