

THE PAST IS PROLOGUE: UNDERSTANDING THE CURRENT STATE OF TREE IMPROVEMENT IN THE UNITED STATES

Kim Steiner¹

Forest genetics research and related tree improvement R&D in the United States has followed a long arc of interest and investment since pioneering efforts by the USDA Forest Service in the first decades of the last century. The scope and intensity of this work exploded between 1950 and 1985 as public agencies, private industry, and universities shifted resources to capitalize on optimism about the application of genetics to forestry and forest productivity. In the latter part of this period, there was a genetics or breeding specialist in every Forest Service experiment station, every National Forest Region, many individual National Forests, about half of all State forestry agencies, most large timber companies, and almost every forestry school. As the century ended, however, there followed a period of rapid, almost precipitous retrenchment in tree improvement work due to a “perfect storm” of circumstances that are described in the presentation. Forest tree improvement has contracted to natural core of work focused on productivity gains in species that are planted on a large scale. As a research discipline, forest genetics survives in a healthy, if somewhat diminished state, but the focus has shifted to lab-based genomic studies, and the scientists are often disengaged from real-world problems. Unfortunately, institutional disengagement from tree improvement has left a lingering reluctance to invest in long-term projects that may be essential for the protection and rescue of species threatened by invasive diseases or insects. Permanent solutions to some of these problems will require long-term breeding programs coupled with silvicultural opportunities to implement gains.

¹Pennsylvania State University, University Park, PA 16802, (kcs@psu.edu).

Citation for proceedings: Nelson, C. Dana; Koch, Jennifer L.; Sniezko, Richard A., eds. 2020. Proceedings of the Sixth International Workshop on the Genetics of Host-Parasite Interactions in Forestry—Tree Resistance to Insects and Diseases: Putting Promise into Practice. e-Gen. Tech. Rep. SRS–252. Asheville, NC: U.S. Department of Agriculture Forest Service, Southern Research Station. 170 p.