

FOREST STAND DYNAMICS OF SHORLEAF PINE IN THE OZARKS

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EXTENDED ABSTRACT

Forest stand dynamics (Oliver and Larson 1996) examines the interactions among woody plants over time. Both the silvical requirements of the species present in the forest stand and the effects of these plants on each other must be understood. The components that are usually considered are regeneration, growth (in both diameter and height), mortality, and differences in species' tolerance of shade, fire, and drought. In addition, disturbance tends to shift the competitive advantage from one species to another.

Shortleaf pine has many interesting silvical characteristics (Burns and Honkala 1990) that distinguish it from the other southern pines. It is the most vigorous sprouter, it has the most northern range of the southern pines and it seems to occupy the marginal sites for southern pines (Record 1910, Liming 1946, Fletcher and McDermont 1957, Dingle and Burns 1954, Nash 1963). The reasons for these characteristics are many and but they tend to give shortleaf pine a reputation as a slow growing southern pine. Shortleaf pine actually has the potential to grow very well given a good site and proper levels of composition (Gingrich et al. 1965, Rogers and Brinkman 1965, Brinkman and Rogers 1967, Rogers 1982, Rogers and Sanders 1984).

Much has been written on the management of shortleaf pine in the Ozarks (Brinkman et al. 1965, Brinkman 1967, Brinkman and Smith 1968, Seidel and Rogers 1965, Seidel and Rogers 1966). In large portions of the Ozarks, shortleaf pine does not grow in pure stands but rather in mixes with various oak species. These mixes present unique challenges in finding the set of conditions that allow both species to survive and flourish. The author will comment on ideas of how these systems research and current work being done to quantify these ideas.

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