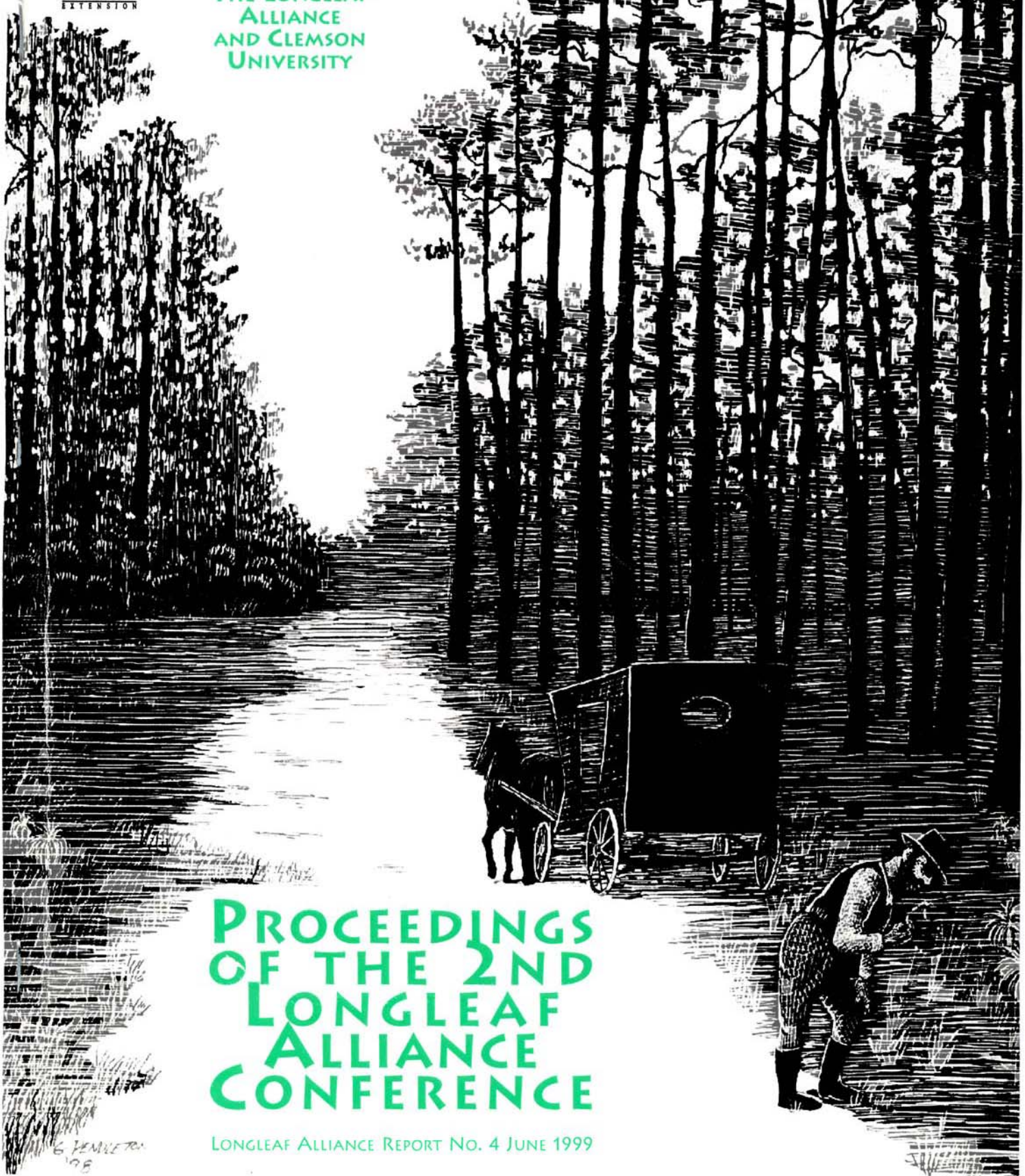




THE LONGLEAF ALLIANCE

CLEMSON  
EXTENSION

NOVEMBER 17-19, 1998  
CHARLESTON,  
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# PROCEEDINGS OF THE 2ND LONGLEAF ALLIANCE CONFERENCE

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## **Longleaf pine seedling survivorship influenced by pocket gopher disturbance and timing of fire**

Samuel M. Simkin (A & S Institute of Ecology, University of Georgia, 510 Plant Sciences Building, Athens, GA 30602, and Joseph W. Jones Ecological Research Center, Route 2 Box 2324, Newton, GA 31770)

William K. Michener (Joseph W. Jones Ecological Research Center, Route 2 Box 2324, Newton, GA 31770)

**ABSTRACT:** Longleaf pine (*Pinus palustris*) seed production was high in 1996. In February 1997 we established longleaf pine seedling survivorship plots in a mesic longleaf pine stand at Ichauway (Baker Co., GA). Plots were located on a) mounds formed in 1996 by pocket gophers (*Geomys pinetis*) and b) at reference plots undisturbed by pocket gophers. Plots were nested in blocks that were later burned on April 8, 1997, June 10, 1997, or April 9, 1998. Our objectives were 1) to determine whether pocket gopher mounds are refugia from fire and 2) to assess the importance of seedling age at time of fire. The April 8, 1997 fire killed 85 to 87% of seedlings at mounds and references. The June 10, 1997 fire killed nearly 100% of seedlings at both mounds and references. Significantly fewer seedlings died at mounds (62%) than at references (77%) during the April 9, 1998 fire ( $p < 0.05$ ). Seedling mortality was also lower at mounds (7%) than at references (13%) from April-October 1997, prior to the April 8, 1998 fire ( $p < 0.05$ ). Cumulative survivorship of seedlings from February 1997 to late April 1998 was significantly higher at mounds burned in April 1998 (29%) than at mounds burned in April 1997 (14%), references burned in April 1997 (14%), or references burned in April 1998 (14%) ( $p < 0.05$ ).