REPRODUCTION OF LONGLEAF PINE OUTSIDE ITS NATURAL RANGE

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Longleaf pine (Pinus palustris Mill.) is one of the valuable southern pines. The outstanding advantages of this species in timber growing are its resistance to such destructive agencies as fire and certain insects and diseases (e.g., tip moth and rust canker), and its tolerance of poor soil and heavy working for turpentine. The tree develops a thick fire-resistant bark early in life. Relatively rapid natural pruning, a pronounced dominance beginning in the sapling stage, and adaptability to the production of large clear timbers are other important desirable characteristics.

The natural range of longleaf pine, however, is limited to the South Atlantic and Gulf Coastal Plains extending to the foothills of the Appalachians in Northern. Alabama and Georgia (1, 4).

According to Tourney and Korstain (3), "The limits of the natural range of a species are largely a matter of its capacity to reproduce. The range of a species can usually be extended by planting, but when so extended, it does not reproduce, and in time the natural range is reestablished, although the trees may live and grow to fair size."

Slash pine (Pines elliotttii var. elliottii Little and Dorman) has been reported capable of reproducing itself, outside its natural range (2, 1).

Plantations of longleaf pine were established at the George Foster Peabody School of Forestry, Athens, Ga., in 1936. Athens is approximately 60 miles northwest of the nearest natural limits of longleaf pine. Records show that the seeds used at Athens originally were collected near Cameron Hill, Harnett County, N.C. in 1935.

During the fall of 1955, cones were collected from three of the trees in the plantation. The seeds were extracted and planted in the spring of 1956, and an average of 56 percent germination was recorded. The seedlings were outplanted in 1957 for further observations. In 1956, naturally regenerated seedlings were growing under one of the longleaf pines on the border of the plantation (fig. 1).

The production of cones, germination percentages, and the natural reproduction of the seedlings indicate that longleaf pine can produce viable seed and may establish itself outside its natural range.

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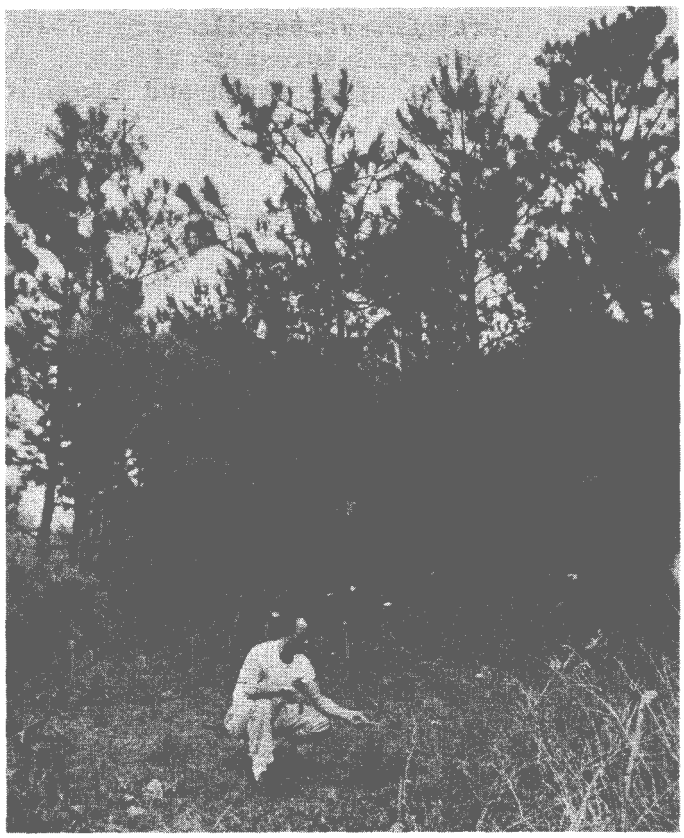

Figure 1. A naturally regenerated longleaf pine.

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