

LONGLEAF CONE PRODUCTION, DOUBLED BY RINGING

W. F. Mann, Jr., and T. E. Russell

Alexandria Research Center
Southern Forest Experiment Station, U. S. F. S.
Alexandria, Louisiana

Ringling or partial girdling has more than doubled cone and seed production on some second-growth longleaf trees near Alexandria, La. Since this treatment is easy to apply, it may be useful in the management of seed-producing areas or as an aid in securing natural regeneration on areas lacking adequate seed trees.

The study, started in the summer of 1952, was made with open-grown trees ranging from 6 to 12 inches d.b.h., and grouped into 2-inch diameter classes. Ringing was done by cutting two half circles through the cambium on opposite sides of the bole slightly above stump height (fig. 1). The half circles were spaced about 4 inches apart and overlapped 1 inch on each end. Incisions were 1 inch wide and were made quickly with a bark hack of a kind used in turpentine. Once the men became accustomed to the hack, the ringling progressed very fast.

Three years after treatment, the larger ringed trees produced significantly more cones than unringed trees of comparable size. In the 12-inch d.b.h. class, ringed trees averaged 120 cones and unringed trees 51. Similarly, 10-inch ringed trees averaged 77 cones, and unringed trees 37. Ringing was ineffective on trees smaller than 10 inches, probably because they were too small to bear cones abundantly.

Seed tests showed that ringling had no effect on the number of sound seeds per cone or the germinability of the seed. Therefore, seed yields as well as cone yields were stimulated by the ringling.

The fresh incisions on some of the trees attracted black turpentine beetles. The infestations subsided quickly without treatment, and no mortality occurred. However, spraying the bole around the rings with benzene hexachloride may be a wise precaution.

About 1-1/2 years after treatment, the rings started to callus over. This new tissue was easily removed with a chisel, and no further callusing has been noted.

Strangulation, by placing a tight metal band around the tree trunk at stump height or at 16 feet, had no effect on cone yields. Similarly, there was no response to a 0.2-percent concentration of 2, 4-D placed in small incisions around the base of the bole.

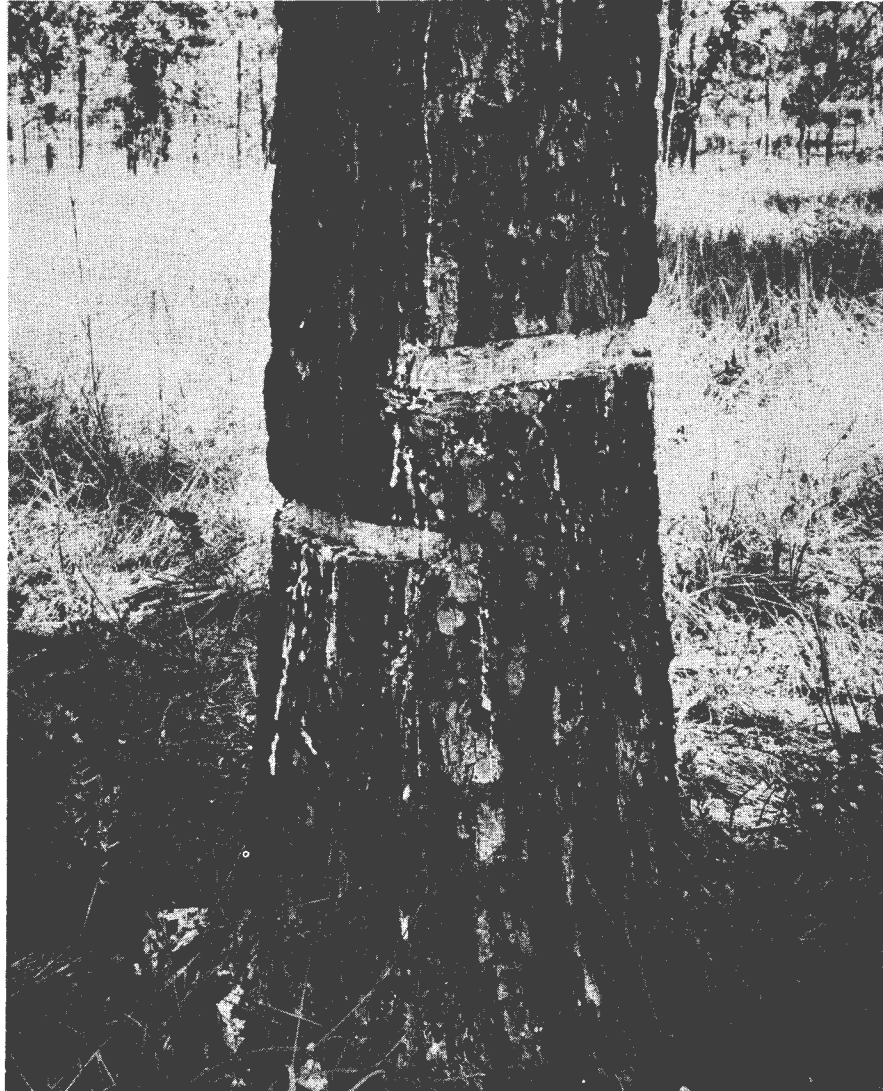


Figure 1. Ringing was done by cutting two half circles through the cambium. The half circles were about 4 inches apart and overlapped an inch on each end. (Photo by Louisiana Forestry Commission).