Technical Note – Forest
North Carolina

April 14, 1980

SOUTHERN PINE BEETLE HAZARD RATING SYSTEM FOR THE PIEDMONT 1/

Natural stands highly susceptible to southern pine beetle attack have certain stand, host, and soil conditions.

High-hazard stands have shortleaf pine mixed with few hardwoods. The pines have slow radial growth and are rooted in heavy clay soils. Southern pine beetle attack symptoms are yellow or reddish-brown crowns on the tree, small pitch tubes on the middle or upper bole sections, and S-shaped galleries on the undersurface of the bark.

The following hazard-ranking system has been developed for rapid onsite evaluation of stand susceptibility.

Stand	Yes	No
Shortleaf pine makes up more than 50% of the total pine		
Hardwood component makes up less than 25% of the total stand		
Pine basal area is more than 130 $ft.^2$/acre		
Representative Tree		
Radial growth during the last 5 years is less than ½ inch		
More than 40% of the crown appears to be alive		
Soil is red clay (kaolinitic mineralogy)		
Total Yes answers		

If Yes answers total 5 or 6, the stand is at high risk for SPB attack. Totals of 3 or 4 indicate moderate risk. Totals of 0, 1, or 2 indicate low risk to beetle attack.

If a stand is at high risk, one should make intermediate cuttings to sustain rapid growth. Salvage cuttings are recommended to utilize dead trees, and sanitation cuttings can be used to reduce beetle spread to healthy trees.

Cultural treatments should favor loblolly pines or mixtures of pines and hardwoods. The stand and site should be carefully tended while harvesting to minimize damage to residual trees and to reduce losses from the southern pine beetle. Overmature stands should be regenerated with species most resistant to SPB attack.

1/ The stand-hazard rating system was developed by Roger Belanger, Principal Silviculturist, Southeastern Forest Experiment Station, and Terry Price, entomologist with the Georgia Forestry Commission. Both men are members of the Stand-Rating Systems and Silvicultural Practices Technology Transfer Team.