





Technical Bulletin for: Southern Pine Beetle

Dendroctonus frontalis (Zimmerman) • Coleoptera, Scolytidae • DENFRO



DISTRIBUTION	Southern United States, Mexico, Central America
HOSTS	Species of Pine, including Loblolly, Shortleaf, Slash, Virginia, Pitch, Longleaf, Pond, Table Mountain, White, Ponderosa, Apache and Chihuahua Pine.
DESCRIPTION	
Adult	Approximately 3 mm in length, with short legs and a hardened reddish brown to black exoskeleton
Larvae	Subcylindrical, wrinkled, and legless with 13 segments. Early stage larvae are 2 mm in length, growing to 5-7 mm at maturity, and are yellowish-white in color.
Eggs	Slightly oblong to oval with rounded ends, circa 1.5 mm long, opaque, pearly white and shiny.
LIFE HISTORY	Mating and oviposition take place within the successfully attacked host tree. Females initiate excavation of egg galleries in the phloem. Copulation takes place within a nuptial chamber. After mating, the female excavates a characteristic S-shaped egg gallery, and eggs are laid in niches at precise intervals along the lateral walls of the gallery. Once oviposition is completed, adult beetles either die in the gallery or re-emerge, allowing for multiple broods. Brood development (from egg to adult) ranges from ca. 26 to 140 days depending on temperature. Eggs usually hatch in 3 to 27 days. Larvae excavate galleries perpendicular to the egg gallery. There are four larval stages. The first three forage in the phloem region and the fourth moves into the outer corky bark. Larval development is completed in 13 to 63 days. Larvae pupate in the outer bark and later transform into callow adults in 3 to 36 days. Mature adults emerge through exit holes bored from the pupal chamber. If weather conditions are unfavorable the adults will remain in the bark. The final phase in the life cycle is emergence, which occurs in small daily increments over a 14 to 28-day period. Beetle dispersal takes place in the morning and afternoon hours.

MONITORING INFORMATION

LURE ACTIVE INGREDIENTS, SUBSTRATE & FIELD LIFE	Frontalin and Turpentine in a plastic bulb in plastic netting. Lure longevity: 30 Days.	
TRAP TO USE	Panel Trap	
MONITORING STRATEGY	Hang traps in or near potential host trees. Check with local Forestry Service for further information and recommendations	
CULTURAL & PHYSICAL CONTROL	Inspect trees for damage to bark, egg or nuptial galleries, or even eggs themselves. Excise these areas if possible and dispose of them properly. In extreme cases, complete removal and subsequent incineration of the infested tree(s) may be necessary.	

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