

Pales Weevil: A Serious Threat to Longleaf Pine Production

Coleman A. Doggett and Thomas Smith

Senior staff forester, North Carolina Division of Forest Resources, Raleigh, NC
and pest control forester, North Carolina Division of Forest Resources,
Goldsboro, NC

Pales weevil (*Hylobius pales* (Herbst)) has become a serious problem to longleaf pine (*Pinus palustris* Mill.) seedlings in North Carolina. The weevil may feed below ground on tap roots or above ground on the seedling bud. Longleaf pine seedlings planted on recently cut pine tracts should be checked for weevil damage at 2 to 4 weeks after planting. If damage from pales weevil is occurring, seedlings should be treated with the appropriate insecticide. Tree Planters' Notes 43(3):87-88: 1992.

The pales weevil (*Hylobius pales* Herbst) is a serious insect problem in pine reproduction (Drooz 1985). The insect is attracted to recently cut pine stands. If pine seedlings, either natural or planted, are present in the cutover area, the insect feeds on their stems. Light feeding injuries heal, but heavy feeding results in girdling and seedling mortality. Although pales weevil is known to attack all species of pine within its range, pitch (*Pinus rigida* Mill.), white (*Pinus strobus* L.), shortleaf (*Pinus echinata* Mill.), and loblolly (*Pinus taeda* L.) pines are favored species.

In the past, little damage has been observed on longleaf pine (*Pinus palustris* Mill.). Longleaf pine was considered a low-risk species because only the stout, pubescent bud is above ground line when seedlings are planted. Recently, however, the demand for longleaf "straw" for landscaping purposes has resulted in increased planting of longleaf pines. Longleaf plantations are being established in both fields and on cutover tracts. In the past 2 years, more than 500 acres of longleaf plantations in North Carolina have incurred in excess of 25% mortality due to weevils. The causative agent is definitely pales weevil, because the insects have been observed feeding.

The injury pattern from feeding by these weevils in longleaf pine differs from that encountered in the other pine species. There are two types of feeding on longleaf pines. The first type is on the

taproot, below ground. The weevil cut deep grooves in the taproot (figure 1A) and if feeding heavily, completely debarked the root. The above-ground portion of a longleaf seedling is so short that, when above-ground feeding occurred, the bud was completely consumed, leaving only a tiny stick surrounded by a pile of dead needles (figure 1B).

Several control options are available for minimizing weevil damage. Damage may be avoided by delaying planting for a season on pine tracts that are harvested after June. However, this option results in a year of growth loss and often results in increased site-preparation cost.

Longleaf seedlings planted in areas where pine material has been cut after the previous June should be checked for weevil damage 2 to 4 weeks after planting. If weevil damage is occurring, a registered insecticide may be used for field treatment. The insecticide is applied to individual seedlings in the field with a pressure-type hand sprayer.

Several insecticides are currently registered for use as top dips for protection of pine seedlings from debarking weevils. To use these materials, seedling tops are dipped in the insecticides before planting. Because damage to longleaf seedlings is often in the underground root systems, top dipping will probably be an ineffective control measure. The labels of the currently registered top-dip chemicals specifically prohibit root coverage, so additional studies and label changes will be necessary before these materials may be used to protect root systems.

One systemic insecticide is registered for weevil control on pine seedlings. Although it will probably be effective on longleaf pine, its high mammalian toxicity may preclude general use. Before using insecticides, land managers should check with extension or State forestry personnel to determine currently registered materials.

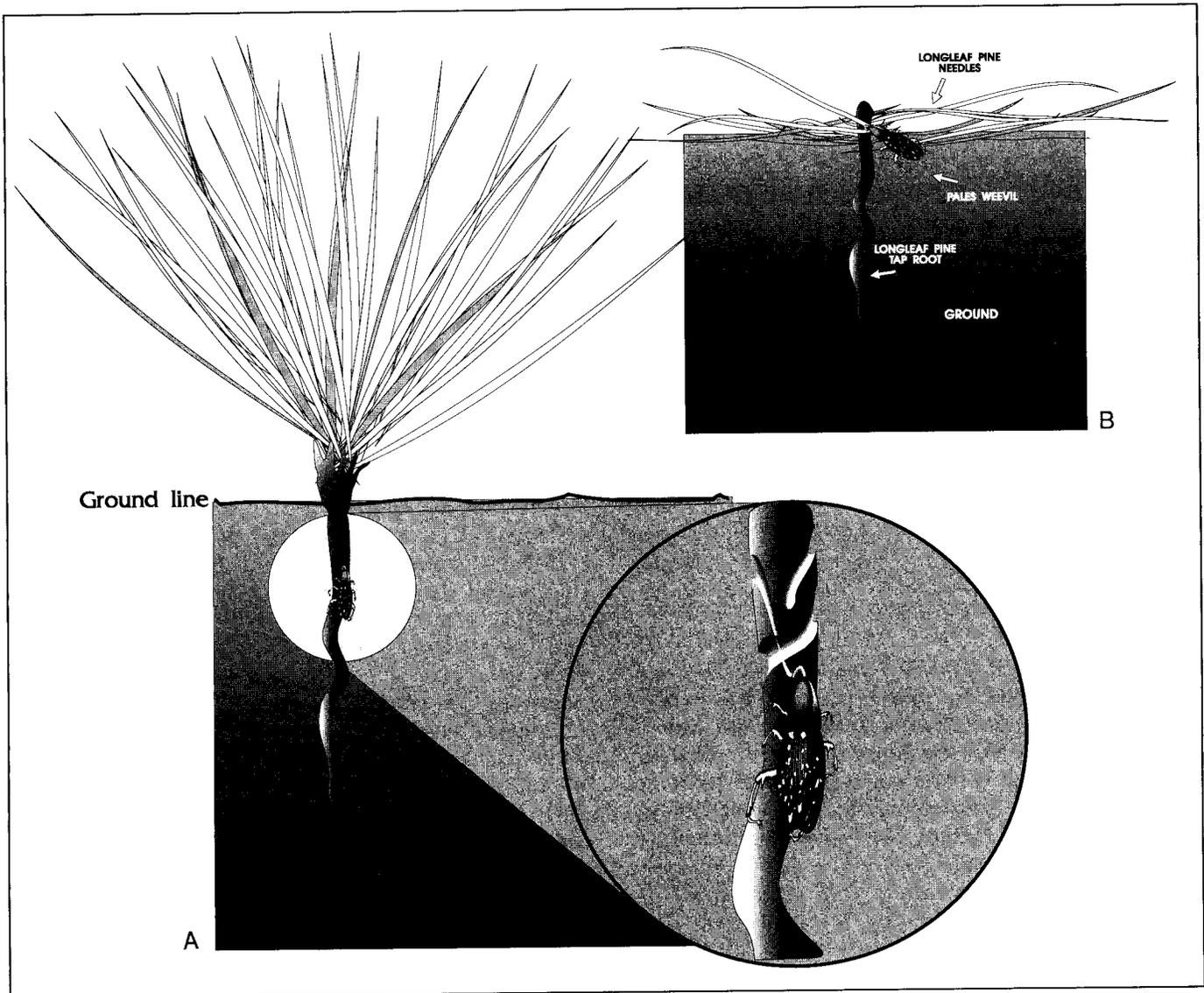


Figure 1A—Tap root feeding by the pales weevil. B—Top feeding by a pales weevil.

Literature Cited

Drooz, A.T., ed. 1985. Insects of eastern forests. Misc. Pub. 1426. Washington, DC: USDA Forest Service: 323-324.

Acknowledgment

We greatly appreciate the work of Chris Carlson, who prepared the illustrations.