

HOW TO PREVENT WEEVIL DAMAGE TO PINE SEEDLINGS IN THE SOUTH

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Forest Service

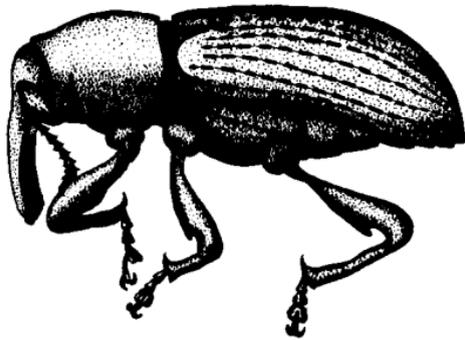
Southeastern Forest Experiment Station

Asheville, North Carolina

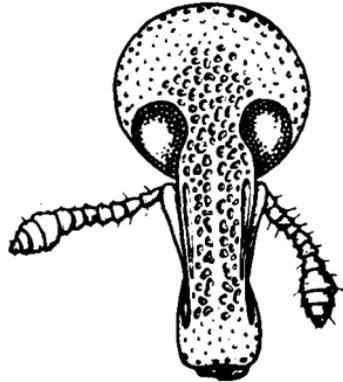


WHAT ARE PALES AND PITCHEATING WEEVILS?

Pales and pitcheating weevils are dark colored, robust, oblong, hard shelled snout beetles, $\frac{1}{4}$ to $\frac{1}{2}$ inch long. In the South these are the two principal species that damage pine seedlings.



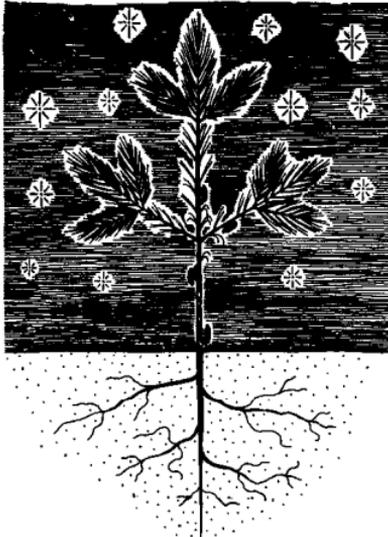
Pales weevil



Pitcheating weevil

HOW ARE PINE SEEDLINGS KILLED?

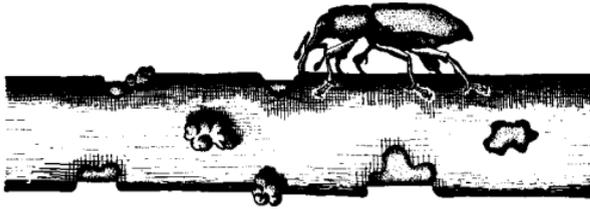
Weevils feed on
trees at night



Weevils hide in the
soil during the day

Weevils feed on the bark of seedlings above or below ground level, girdling the tree and causing its death. Weevils are seldom seen because they feed at night and hide in the soil during the day.

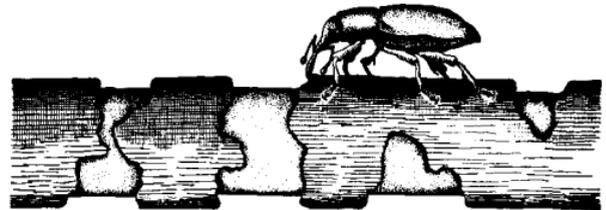
HOW CAN WEEVIL DAMAGE BE RECOGNIZED?



Light weevil feeding heals over

Light weevil feeding creates a series of pits in the bark which fill with resin and heal over. If feeding is heavy, the pits merge, the stem is girdled, and the tree is killed.

Heavy weevil feeding kills seedlings





Logging

Fire



WHERE DO THE WEEVILS COME FROM?

Weevils are common throughout the South. They breed principally in the stumps and roots of recently cut pine trees, but they also breed in dying trees.



Lightning

Bug kills



WHY IS WEEVIL DAMAGE SO SERIOUS TO SEEDLINGS PLANTED ON CUTOVER LAND?

Weevils developing in logging material and dying trees throughout the forest are attracted to cutover areas by the odor of fresh resin. If the area is planted shortly after cutting, seedlings are heavily attacked by the adult beetles.

WHY IS DAMAGE HEAVY AFTER FALL SITE PREPARATION?



Adults are attracted into areas cutover in the spring and early summer. The brood of these weevils develops in the roots of stumps and emerges as new adults in the fall.



When unmerchantable trees are bulldozed during site preparation in the fall, these pines and the new slash attract weevils. These weevils, plus adults emerging from roots of the pines cut in the spring, are held in the area by the new material.

If pine seedlings are planted in the winter, extremely heavy weevil feeding will generally occur the following spring, summer, and fall.



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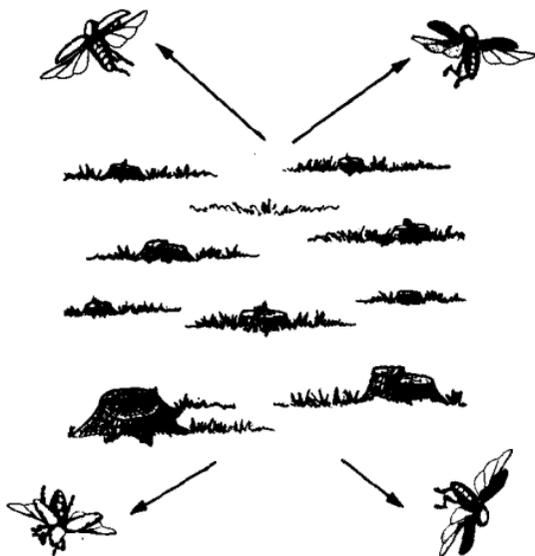
**WEEVIL DAMAGE CAN
BE MINIMIZED BY
TIMING OF CUTTING
AND PLANTING**

IF PINE IS CUT FROM NOVEMBER TO JUNE

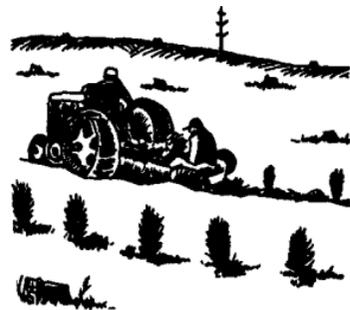
Adults are attracted into cutover areas in the spring after winter cutting, and at the time of cutting in the spring and early summer.



Brood develops in the roots of stumps during the spring and summer.



Weevils emerge from stumps and roots in the fall and disperse to new cutting areas.



Plant during the winter and little or no weevil damage will occur. If seedlings are planted early in the fall, the weevils may feed on and kill seedlings before they disperse.

IF PINE IS CUT FROM JULY TO NOVEMBER



Plant your pine seedlings the following winter and they should be relatively safe from weevil damage

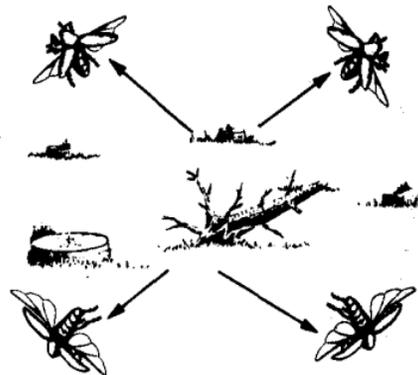


Adults are attracted into areas at the time of cutting ,

Brood develops in the roots of stumps during the fall and winter



Let the land lie fallow the first winter and the new weevils will emerge and disperse the following spring, summer, and fall



Caution: If seedlings are planted the first winter after harvest, heavy weevil damage to the trees will usually occur the following spring, summer, and fall from attracted and newly emerging weevils.

WHEN CUTTING AND PLANTING CANNOT BE TIMED FOR NATURAL CONTROL

Seedlings can be protected from weevil damage by dipping them in an insecticide prior to planting.

Chemicals used for insect control are constantly being replaced by more effective or safer compounds, and their use may be restricted in some states. Therefore, for the latest control recommendations in your State please contact your County Agent, State Forester, or Forest Service office.



Use Pesticides Safely

FOLLOW THE LABEL

U.S. DEPARTMENT OF AGRICULTURE