Technical Bulletin
Forest Health Notes # 7
Issued: 12/12/2007

Tree Planting Time Brings Challenges: Pales Weevil

Pales weevil, *Hylobius pales*, pictured to the right (UGA1435076) severely damage newly planted pine seedlings. Under high population levels, young plantations may also be damaged. Adult weevils feed on the succulent young bark of seedlings and on developing shoots of older trees. When heavy feeding occurs, the stems of the seedlings are girdled, resulting in tree death. The first symptom of weevil feeding on seedlings is wilt along with feeding that exposes the xylem.

Figure 1: Pales weevil, Hylobius pales

Generally, weevil damage will not occur in areas being planted that are devoid of coniferous vegetation such as old fields and hardwood stands since weevils are not attracted to these areas. Areas undergoing natural regeneration or aerial seeding are also unlikely to suffer significant damage since weevils initially attracted to the area during cutting will be gone by the time the seedlings are large enough for feeding to occur. However, some damage can occur when seed trees are removed from newly established stands. Planted stands harvested and site-prepared before July are also usually not damaged since over wintering adults and their broods will have migrated from the areas before fall or winter planting. On the other hand, hazardous sites are usually areas that have been harvested after June 30 or before July and site-prepared in late summer or early fall. The reason for this is that weevils are attracted to volatiles released from pines damaged during these operations. Hence, hazard rating can be determined by knowing the harvesting date and the planting date. In general a site is considered low hazard if the logging date is during the winter-spring and the planting date is from December to February, with the stumps hardening off during the summer. Medium hazard sites are ones that logging took place during the summer and planted the following February to March. The highest hazard sites are those that were logged during the fall-winter followed with planting in the February-March time period.

Adult weevils feed on the inner bark of freshly cut stumps or other coniferous logging debris during the night. When the dead material is no longer suitable, the weevils feed on seedlings or the inner bark of the twigs on larger trees. As mentioned before, this feeding can result in the girdling of the seedling or twig. Weevils may be active in every month of the year in the South. Adult weevils attracted into areas harvested before July will complete egg laying and migrate out of the sites before the cool weather arrives in the fall. Most of the broods established by these adults will also have completed development and migrated from the area.

In areas harvested after June, both the parent adults and developing broods over winter on the site. In the spring, the parent adults emerge and engage in maturation feeding. Over wintering broods also complete development. The peak period for weevil activity is any where from March to May (depending on the geographic location) when the most damage occurs to newly planted seedlings. It is this combination of over wintering parent adults

Tree Planting Time Brings Challenges: Pales Weevil

and emerging brood adults that accounts for the heavy damage in newly regenerated plantations.

Management of reproductive weevil populations consists of either delayed regeneration or the use of insecticides. If planting is delayed one year, no damage will occur since all the weevils will have migrated from the site. There is little environmental impact associated with delayed regeneration; however, there can be a significant economic impact in the form of a loss of one year of growth. Insecticide treatments are used on areas that have been harvested after June and regenerated the following fall or winter. Need to check on what insecticides are currently labeled for pales weevil control and associated site restrictions.

The decision to delay planting or use an insecticide treatment rests upon many factors. Costs of insecticide treatments vary from year to year depending upon labor, chemical costs, and the number of seedlings planted per acre. Cost benefit analysis is helpful in making an informed decision.

A great deal of information is available concerning these insects on sites such as http://www.barkbeetles.org/browse/subject.cfm?SUB=265 and on that web page one could go to http://www.forestpests.org/southern/palespitcheating.html.

For additional information contact:
Mississippi Forestry Commission Local Office or T. Evan Nebeker tevannebeker@bellsouth.net.