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FIREWOOD AND BARK BEETLES IN THE SOUTHWEST

PUBLICATION AZ1370
09/2005

Bark Beetles are tiny naturally occurring insects that contribute to the death of thousands of trees in the Southwest each year. Most species of conifers are utilized by bark beetles. Even freshly cut logs are an ideal host for many bark beetles. The buildup of beetle populations, whether in infested trees or firewood, can then attack nearby live trees. Precautionary steps can reduce the likelihood of bark beetles, that have infested firewood, attacking live trees.

Identifying Bark Beetle Infested Trees or Firewood

Pines attacked by bark beetles tend to turn pale green, then yellow, followed by reddish brown (DeGomez and Young, 2002). Arizona cypress branch tips break off and hang like flags, turn brown and then, the whole tree turns brown (Schalau, 2003). Under the bark of a fading or dead tree or log you can find tunnels or galleries with radiating arms where eggs, larvae, pupae and emerging adults live or once lived. The white larvae and brown to black adults are about the size of a grain of rice (Figure 1). Signs of fresh attacks on firewood will be small piles of sawdust, without pitch. Between April and September green logs will maintain enough moisture for beetle colonization for three to six months. The wood from which the bark beetles have emerged will have BB size holes ($\frac{1}{16}$ " or 2 mm) in the bark where the beetles have chewed through to exit.

Dry Wood is a Poor Host for Bark Beetles

As wood dries, it loses water and weight and becomes less desirable as a host for bark beetles. Speed the drying process as follows:

- Choose trees for cutting that have dried at least one year or those that have noticeably loose bark.
- Split the wood before piling. The sooner the wood is split, the quicker it dries and is less attractive.
- Bark beetles feed on inner bark, debarking logs will eliminate their food source. Destroy infested bark by burning or landfilling.

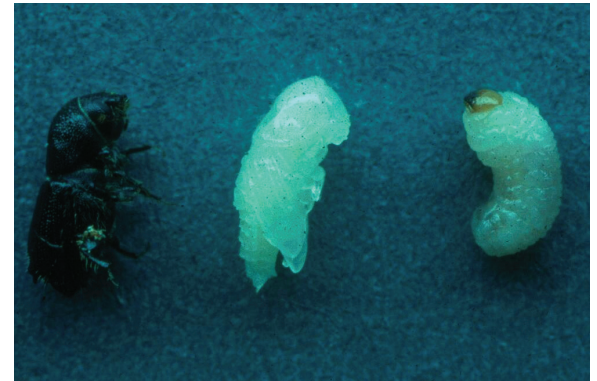


Figure 1. Bark beetle adult, pupa and larva. (Michael R. Wagner, photo)

- Store outside in a woodshed, not in poorly ventilated areas like basements. Inadequately dried wood can become moldy, cause unpleasant odors and harbor insects. Humidity released from the wood can also cause mold and rot on structural materials. Wood piles stored near or beneath structures can become fire hazards (Deneke, 2002).
- Pile the wood in the sun, loosely, to allow airflow through and under. Never pile near susceptible trees!

Solarization Treatments of Infested Wood

Freshly cut wood will attract bark beetles. To prevent problems, try the following:

- Stack wood two logs high in prolonged full sun, loosely wrapped with thick, clear plastic with the edges sealed in trenches with soil (Figure 2). This process creates a solar oven. Much depends upon the amount of solar energy trapped and the

At a Glance

- Identifying Bark Beetle Infested Trees and Firewood
- Dry Wood is a Poor Host for Bark Beetles
- Solarization Treatments of Infested Wood
- Reducing Risks
- Firewood Should Not Be Treated with Insecticides



Figure 2. Firewood covered with plastic. (Tom DeGomez, photo)

height or thickness of the pile. This technique is usually only effective during the hottest months of the year, April through September. The high temperatures produced will kill bark beetles inside the wood. Mortality of bark beetles in the logs at the top of the pile may exceed fifty percent, but those in lower logs may not be affected.

- Soak the logs with water prior to covering with plastic to promote mold growth and further deter beetle development. Thoroughly dry the logs prior to bringing them inside.
- Un-stacked individual logs can be laid in the open sun and turned weekly to dry out logs evenly and quickly. Stove length logs can be split into halves or quarters and laid in the full sun until dry.

Reducing Risks

- Bark beetles are species specific. If you move bark beetle infested firewood at least several miles away from the host species, then the beetles in the infested wood cannot infest the local species. For, example, infested piñon wood will not infect ponderosa trees and infested ponderosa wood will not infect piñon and neither will infest low desert or deciduous trees.
- Pile limbs and logs with smaller diameters within the woodpile and larger limbs on the outside to be “solarized” by the sun. Limbs of less than three inches in diameter are less likely to be infected so larger limbs/ logs on the outside can be “solarized” by the sun.
- To reduce wildfire risk, pile firewood uphill and 30 feet from your house and other buildings.

- Do not store under a deck. To reduce wildfire risk decks should be screened-in with metal screen and a non-flammable material like cinder or gravel should continue under the deck.
- Do not stack firewood suspected of harboring bark beetles against live trees.
- Burn infested wood before the adult beetles emerge during the spring’s warm weather.
- Do not take more than a two weeks supply of firewood inside your warm home. Warmth will activate the beetles in the infested wood.
- The wood box should be vacuumed every two weeks even though forest insects will not attack household furnishings.

FIREWOOD SHOULD NOT BE TREATED WITH INSECTICIDES!

Currently, no insecticides are registered for use in control of insects that infest firewood. Therefore, they are not only illegal to use but even more importantly, sprayed firewood may release toxic fumes as it burns.

References

- DeGomez, T. and D. Young. 2002. Pine Bark Beetles. University of Arizona, College of Agriculture and Life Sciences Bulletin, AZ1300. Tucson, Arizona.
- Deneke, F. 2002. Creating Wildfire-Defensible Spaces for Your Home and Property. University of Arizona, College of Agriculture and Life Sciences Bulletin AZ 1290. Tucson, Arizona.
- Schalau, J. 2003. Cypress Bark Beetles. University of Arizona, College of Agriculture and Life Sciences Bulletin, AZ1316. Tucson, Arizona.

Additional information on bark beetles in Arizona can be found on the web at:

Forest Health Website, <http://cals.arizona.edu/extension/fh>. University of Arizona, College of Agriculture and Life Sciences. Tucson, Arizona.

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Issued in furtherance of Cooperative Extension work, acts of May 8 and June 30, 1914, in cooperation with the U.S. Department of Agriculture, James A. Christenson, Director, Cooperative Extension, College of Agriculture & Life Sciences, The University of Arizona.

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